Summary of Testimony

Professor Robin Feldman

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Mr. Chairman and esteemed members of the Committee. I am honored to be here today. I am Robin Feldman, Professor of Law and Director of the Institute for Innovation Law at the University of California, Hastings. As an academic, I have studied patent assertion behavior both in the litigation context, and in the pre-litigation context.

In recent years, a new business model of patent demands has exploded onto the scene. It preys on people's fears of the costs and risks of litigation, and it takes place largely outside the courthouse—with no judge, jury, or regulator in sight. Much of the time, it is shrouded in nondisclosure agreements, so no one is allowed to talk afterwards.

The behavior is based on the following: There are millions of patents outstanding, and it is very difficult to know what a patent covers. It will cost you between $1 million and $6 million dollars in litigation expenses to find out. And there is a risk. If you lose, you could end up paying a massive damage award or you could have your business shut down. With that leverage, here is a sample of some of the modern techniques that have appeared.

The first is what one could call the peddler's bag. Suppose you are a computer manufacturer, and I claim that your manufacturing infringes my patent on gumballs. That may seem pretty far-fetched to you. However, suppose, I threaten to throw 50 more patents at you as well. While you may be tempted to fight the first, you may not have the stomach or the litigation budget to fight all fifty patents. The process of analyzing those 50 patents is costly, let alone the risks of litigating the entire lot. If not the gumball patent, maybe something in there will stick, and it is probably just better if you take a license.

Another behavior is what I call the assault rifle approach. With this approach, patent assertion entities target a vast number of people, hoping to obtain moderate settlement amounts from as many of them as possible. For example, patent assertion entities have launched campaigns against thousands of small businesses for using scanner equipment they have purchased and against coffee shops for using Wi-Fi equipment. Those who receive the letters know nothing about the patents involved or about how to respond to the demands.

Still another behavior is known as privateering. Suppose I am a company that makes products. If I launch my patents against a competitor, my competitor will just launch its patents back at me, putting my business at risk. Thus, I may not bother. In the modern world of entities that do not make products, however, I have many options. I can transfer my patents to an assertion entity that can target my competitors. I could even structure the transfer so that I share in the returns. That way, I damage my rivals, get a return from my patents, and my hands are clean.

These three are samples of the techniques that are being utilized. As with many pressure sales tactics, the demand letters may say that the cost will go up if you consult a lawyer, if you ask for more information, if you wait until a lawsuit is filed, or if you wait until others take the offer. Some demands require that the company sign a broad nondisclosure agreement, even to get basic information.

Which leads me to one of the many troubling aspects of this behavior. Much of the behavior is shrouded in nondisclosure agreements and hidden behind layers of shell companies. This makes it difficult for regulators to see when bad behavior is occurring. It is also difficult to hold anyone accountable, because the shells may have no meaningful assets.

The impact of these patent demands against companies large and small is troubling. A recent study of mine showed that one in three startup companies has faced patent demands and that most of these demands are coming from assertion entities. Other scholars have estimated that very little of the vast amount of money changing hands ever gets back to the inventors who filed the patents. It does not take fancy economics to know that time spent analyzing patent demands is time away from innovating, and money spent on patent demands is money not spent on jobs.

In closing, I do want to stress one important issue. Patents are essential for innovation in this country, and patent rights are useless if one cannot enforce them. I am not talking here about the legitimate protection of an invention. I am talking about shadow games that exploit the system and prey on people's fears.

I have submitted several pieces of my research as my full testimony for the record, and I look forward to answering any questions.

Patent Demands & Startup Companies:

The View from the Venture Capital Community

By Robin Feldman[1]

This paper presents the results of a study conducted on the topic of patent demands against venture-backed startups. The study was conducted through the members of the National Venture Capital Association and their portfolio companies. The paper details responses from more than 200 venture capitalists and their portfolio companies. Results include quantitative information on the frequency of patent demands, the percentage of demands that came from those whose core business involves licensing or litigation patents, the costs of responding to demands, the possibility of demands timed in relation to funding, and the distribution of demands in different industry sectors.

Results also include the respondent's views on whether patent demands are a significant problem in the sector, whether venture capitalists consider the possibility of selling patents in determining whether to invest in a company, and whether venture capitalists would be deterred by patent demands against a

[1] Professor of Law & Director of the Institute for Innovation Law, University of California Hastings College of the Law. This work was supported by the University of California Hastings Institute for Innovation Law. No corporation or other entity outside of UC Hastings provides more than 10% of the Institute's funding. No funding for this or any other work has been provided by the National Venture Capital Association. I am grateful to Colleen Chien, Jennifer Dowling, Ira Ehrenpreis, Osagie Obasagie, Carolyn Spencer, and Kelly Stone for their suggestions on the design of the study. I also wish to thank David Schwartz and Michael Risch for their comments on the results, as well as Kristy Brady, Jake Wexler, and Josh Wolf for their invaluable research assistance.

company they were considering adding to their portfolio. Finally, the paper provides qualitative information on the effects of patent demands on the lives of venture-backed startup companies—documenting both the human and the economic costs of patent demands.

Key results are the following:

- 70% of the venture capitalists have portfolio companies that have received patent demands; and roughly one in three startup companies report receiving patent demands;
- Although 70% of the venture capitalists have experienced demands in the information technology sector, 30% also have experienced demands in the life science sector;
- The vast majority of patent demands against the startup companies come from entities that license or litigate patents as their core activity. (Specifically, 59% of the venture capitalists and 66% of the startup companies reported that all or most came demands come from such entities);
- 74% of the venture capitalists and 58% of the startup companies report that patent demands had a significant impact on a company. (Details of those impacts and associated costs are described below);
- According to the vast majority of both the venture capitalists and the startup companies, the costs of preparing for and defending against patent demands exceed $50,000 per company, with a number of companies reporting costs in the millions of dollars.

- 64% of venture capitalists *disagree* with the statement, "as a venture capitalist, I consider the potential for selling patents to patent assertion entities if the companies fail."
- When asked whether they see patent assertion as positive for startups and the startup community, 72% of venture capitalists *disagree*.
- 100% of venture capitalists indicate that if a company had an existing patent demand against it, it could potentially be a major deterrent in deciding whether to invest. Roughly half indicate that it would simply be a major deterrent on its face, and the other half indicate that it could be a major deterrent, depending on the circumstances.

Finally, one venture capitalist summed up the impact of patent demands on venture-backed companies in a particularly cogent fashion. When companies spend money trying to protect their intellectual property position, they are not expanding; and when companies spend time thinking about patent demands, they are not inventing.

Background on the Extent of Modern Patent Monetization

Patent monetization has existed in some form since at least the 19th century. In recent years, however, the market for patent trading and patent assertion has expanded dramatically, growing both in scope and in the level of sophistication. As a result, the percentage of patent lawsuits filed by those who do not make products

has increased dramatically from roughly 25% in 2007 to almost 60% in 2012.[2] In other words, as of 2012, the majority of patent lawsuits are filed by those whose core business involves licensing and litigating patents, as opposed to making products.

Before the rise of the today's patent assertion market, most patent litigation operated more as a tool of last resort for companies that created their own products. In this context, the threat of litigation ensured a form of mutually assured destruction. For example, if one product company launched its patents against a competitor, the target company would wield its own set of patents in retaliation, putting the original company's products at risk. The tendency toward risk aversion, therefore, acted as a limiting factor on patent demands and patent lawsuits.

In today's patent assertion market, however, monetizers use litigation as a profit-generating weapon, often relying on companies' fear of the high costs and risks of patent litigation to encourage settlements. The complexity and uncertainty of the patent system tends to work in a monetizer's favor. For example, it is tremendously difficult to know what the language of a patent covers, and it can cost as much as one to six million dollars to find out through a patent lawsuit. When monetizers brandish numerous patents at once, this cost and complexity can multiply. Moreover, if a product company challenges a patent and loses, the

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[2] *See* Robin Feldman, Tom Ewing & Sara Jeruss, *The AIA 500 Expanded: Effects of Patent Monetization Entities* (forthcoming UCLA JOURNAL OF L. & TECH. 2013); *see also* Colleen V. Chien, Patent Assertion Entities, Presentation to the DOJ/FTC Hearing on PAEs (December 10, 2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2187314 (using data from RPX Corporation and concluding that the percentage of litigation by non-practicing entities in 2012 has reached 62%).

company could face enormous damages and litigation costs, as well as the possibility that its product could be shut down entirely. A rational company, therefore, may choose the less expensive option of settlement – still a bitter pill to swallow, but one that tastes far better than the costs and risks of litigation.

The cumulative impact of patent assertion in its various forms is staggering. Although difficult to measure with any accuracy, scholars have estimated that patent assertion by monetizers cost U.S. companies $29 billion in 2011 alone.[3] These estimates suggest that only 20% of that cost flows back to innovation, either to outside inventors or to any internal research and development by monetizers.[4]

Other scholars have considered different aspects of the issue. Professor Brian Love has determined that non-practicing entities file more than twice as many lawsuits per patent as operating companies and sue more than four times as many alleged infringers per patent.[5] Others have found evidence that patent monetization lawsuits are directed most frequently at companies in the Internet and technology sectors. In particular, Professors Allison, Tiller, Zyontz, and Bligh have examined Internet-related patents and non-Internet-related patents, concluding that the Internet-related patents have been litigated 7.5 to 9.5 times more frequently than the latter.[6] Professor David Schwartz has noted that costs differ between plaintiffs

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[3] *See* James E. Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L.REV. (forthcoming 2014).
[4] *See* id.
[5] Brian J. Love, *An Empiricial Study of Patent Litigation Timing: Could A Patent Term Reduction Decimate Trolls Without Harming Innovators?* (Santa Clara Univ. School of Law, Working Paper No. 1917709, 2011-12), *available at http://ssrn.com/abstract=1917709*.
[6] John R. Allison et al., *Patent Litigation and the Internet*, 2012 Stan. Tech. L. Rev. 1, 6 (2012).

and defendants in certain types of patent lawsuits, which he attributes to the fact that non-practicing entities can keep costs low by having few documents to discover, moving to trial sparingly, and avoiding bringing motions in court. [7] Professor Michael Risch studied the 10 most litigious non-practicing entities and concluded that most of the patents asserted in the sample originated from companies.[8] Others have looked at "sport of kings" patent suits, involving companies with more than $100 million in revenue, and others have examined patents suits between smaller entities.[9]

Of particular interest, Professor Colleen Chien has recently studied startups and patenting, including interviews with patent litigators, large-company patent attorneys, venture capitalist, and startups.[10] Although the work has focused particularly on experiences with non-practicing entities, Chien also examined views

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[7] David Schwartz, *The Rise of Contingent Fee Representation in Patent Litigation*, 64 Ala. L. Rev. 335 (2012).

[8] *See* Risch, Michael, *Patent Troll Myths*, 42 Seton Hall L. Rev. 457 (2012). The list was provided by PatentFreedom, which identifies itself as offering subscriptions and services to help operating companies and law firms manage NPE risk more effectively. *See* *https://www.google.com/search?q=PatentFreedom&aq=f&oq=pat&aqs=chrome.0.59j57j60l3j61.1323&sourceid=chrome&ie=UTF-8*

[9] *See* Colleen Chien, *Startups and Patent Trolls*, Report from the New America Foundation's Open Technology Institute, available at http://ssrn.com/abstract=2146251 (citing Gwendolyn Ball & Jay Kesan, Transaction Costs and Trolls: Individual Inventors, Small Firms and Entrepreneurs in Patent Litigation 13 (2009); Colleen V. Chien, Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents , 87 N.C. L. REV . 1571).

[10]Different aspects of Chien's work on patents and startups are available in two locations: Colleen V. Chien, White Paper for Open Technology Institute, *Patent Assertion and Startup Innovation*, NEW AMERICA FOUNDATION (2013) at 20, *available at* http://ssrn.com/abstract=2321340 and Colleen Chien, *Startups and Patent Trolls*, (forthcoming STANFORD TECH. L. REV.), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2146251.

on obtaining patents and interactions with larger product companies. Her conclusions include that only 5% of startups in the sample had sold patents to non-practicing entities, that small companies are vulnerable targets when - because of a lack of leverage - they pay nuisance settlements regardless of the merits, that small companies are often targets of patent suits because they are users of technology, and that costs are highest for startups when the primary response involves fighting in court.[11] Where aspects of Chien's examination can be compared to the work of this study, the results will be described below.

The problem of patent monetization has also attracted increasing attention from the press and companies in many sectors. Technology companies have led the way, with active lobbying campaigns in the United States and in Europe as well.[12] This is not surprising, given that modern patent trolling has had perhaps the largest impact on technology-heavy industries such as software, smartphones, and computers. Others have joined the chorus of complaints, including coffee shops, hotels, and retail outlets large and small. Furthermore, the research below suggests that patent monetization is beginning to expand beyond the tech industry, entering the life sciences arena. In short, patent monetization is a complex and troubling problem, which is reaching into a variety of sectors, although the primary impact continues to be felt in technology.

In response, legislators and regulators at both the state and federal level have begin exploring solutions to the problem. A variety of bills have been introduced in

[11] *See id.*
[12] Letter from Adidas. et al. to Preparatory Committee, Unified Patent Court, Member States of the European Union (Sept. 26, 2013), *available at* http://graphics8.nytimes.com/packages/pdf/business/26trolls-letter.pdf.

the Congress, including an extensive reform bill introduced by Congressman Goodlatte, Chairman of the House Judiciary Committee. The Federal Trade Commission, which held a joint workshop on patent monetization with the Department of Justice in December of 2012, voted in the fall of 2013 to initiate a broad-ranging economic investigation into 25 patent assertion entities. The White House issued a report on patent assertion in the summer of 2013, along with a series of executive orders. In response to those orders, as well as workshops held on the topic, the Patent and Trademark Office has begun exploring sunshine rules for disclosure of patent ownership. State legislators and attorneys general have joined in, taking actions against monetizers who have targeted companies in their jurisdiction. Even the Supreme Court has agreed to hear two cases peripherally related to the topic.

With the high level of interest in patent monetization and its effects on US companies, data on the topic is increasingly important. This study is intended to examine a small corner of the question and to test narratives about startups and the rising patent monetization market. With this goal in mind, the study examines patent demands against startup companies through the experiences of venture capitalists and their portfolio companies. In particular, the study tests a narrative that has circulated which suggests that patent monetization is important for the venture-backed community because monetization offers an alternative for venture capitalists and failed startups.[13] The study tests this narrative through the eyes of

[13] *See* Federal Trade Commission Chairwoman Edith Ramirez, Opening Remarks, Computer Law & Patent Assertion Entities: What Antitrust Enforcers Can Do, (June 30, 2013) (suggesting in a list of positive attributes of patent assertion entities that

the venture-backed community itself, and examines the community's experiences with and perspectives on patent demands in general.

Choosing Terms and Points of Measurement

An initial question in any survey involves the terms to use and the issues to be measured. As concerns have escalated over the problem of patent trolling, everyone has scrambled to define terms. In this highly charged atmosphere, no one wants to be branded a bad guy, and if patent trolls are bad guys, everyone wants the definition to point somewhere else. And, indeed, numerous definitions—and variations on those definitions—have been offered to define the notion of patent trolling. Many use the term non-practicing entity, or NPE, in reference to entities that do not use the patents they own to create anything. In the code-like language of patents, using the ideas in the patent to create a product is called "practicing the patent," and thus, those who do not create products are called "non-practicing." Among many others, Congress has used the term NPE in directing the non-partisan General Accounting Office to study the topic.[14]

Problems with the term include the question of whether to include universities in the definition. Universities are in the business of scientific research and education, and they generally do not engage in the production of products from

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such entities, "can make it easier for a failed start-up to monetize its patents, providing some insurance for venture capitalists"), *available at* http://www.ftc.gov/speeches/ramirez/130620paespeech.pdf.

[14] *See* Pub.L. No. 112-29 § 34 (2011) (directing the nonpartisan General Accounting Office to study the effects of non-practicing entities on US patent litigation; *see also* 157 CONG . REC . S5441 (daily ed. September 8, 2011) (statement of Sen. Patrick Leahy).

their inventions. Thus, they do not actually practice the ideas in their patent portfolios. In addition, a term that references only entities is also problematic. Some of the most famous modern examples of those who do not practice the ideas in their patents, but use the patents to demand license fees from others, are individuals.[15] Other prolific monetizing individuals are organized as trusts.[16]

The distinction between "entities" and non-entities has led to some confusion with the GAO report on patent assertion. The report noted a significant, but smaller, increase in litigation by patent assertion entities through 2011 than was noted by other studies. The difference lies in the fact that the GAO only considered those organized as corporations or partnerships, not those organized as trusts or operating as individuals.[17] This leads to some odd results. The greatest number of lawsuits filed in the GAO's own 500 case sample were filed by someone organized as a trust.[18] A well-known name in patent assertion circles, the business activity of this trust is licensing and litigating patents. Nevertheless, the GAOs definition would exclude this trust from the count of patent assertion entities.

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[15] *See e.g.,* David Segal, *Has Patent, Will Sue: An Alert to Corporate America,* NEW YORK TIMES (JULY 13, 2013) (profiling Erich Spangenberg) *available at,* *http://www.nytimes.com/2013/07/14/business/has-patent-will-sue-an-alert-to-corporate-america.html?pagewanted=all&_r=0*

[16] *See* Sara Jeruss, Robin Feldman & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation,* 11 DUKE L & TECH. REV. 357, 382 (2012) (analyzing the data that the authors provided to the GAO).

[17] *See* United States Government Accountability Office Report, Intellectual Property: Assessing Factors that Affect Patent Infringement Litigation Could Help Improve Patent Quality, at 17, n.35 (August 2013).

[18] *See id.*

From a definitional standpoint, it should not matter whether one chooses to organize oneself as a corporation, a partnership, a trust, or simply to act as an individual.[19] The relevant question involves what activity one engages in.[20]

The reverse problem occurred early on when some researchers defined patent trolls only as individuals. In particular, one of the earliest data-based analyses of modern patent trolling looked only at individual inventors, defining trolls as those who did not commercialize or manufacture anything out of their patents but used those patents for licensing demands. Focusing only on the individuals risks missing much of the activity.[21]

Others use the term patent assertion entity, or PAE, as a way of focusing on entities whose primary activity is to purchase patents to make licensing demands against others who make products; in other words, to assert their patents. In particular, the Federal Trade Commission has used the term PAE.[22] The term is

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[19] I note that in its report to Congress on the effects of non-practicing entities, the General Accounting Office defined the category as including only literal entities, rather than individuals or trusts, causing their estimates to vary from academic literature. *See* GAO study at page 17, n. 35 (noting the exclusion of individuals and trusts and the resulting variation from the Jeruss, Feldman & Walker, *supra* note 16).

[20] One could argue that certain organizational formations facilitate so-called trolling behavior more smoothly, for example, by limiting the targets ability to respond. We see this as more central to issues related to the effectiveness of the behavior, rather than as a reason to alter the definition.

[21] *See* James Bessen & Michael J. Meurer, Patent Failure 16 (2008).

[22] Fed. Trade Comm'n, The Evolving IP Marketplace: Aligning Patent Notice And Remedies With Competition 8 (2011), available at www.ftc.gov/os/2011/03/110307patentreport.pdf [hereinafter Evolving IP Marketplace] (defining PAE as having a business model focused on "purchasing and asserting patents against manufacturers already using the technology, rather than developing and transferring the technology"); *see also* Federal Trade Commission Chairwoman Edith Ramirez, Opening Remarks, Computer Law & Patent Assertion Entities: What Antitrust Enforcers Can Do, (June 30, 2013), *available at*

subject to some confusion and variation, however. For example, does the notion of an "assertion entity" include only those who file lawsuits or does it also encompass those who assert by making licensing demands short of filing a lawsuit? Some entities have tried to suggest that those who assert only through licensing demands should be excluded from the term patent assertion entity. For example, the patent aggregator RPX buys patents, grants licenses to those who purchase the rights to their portfolios, and then transfers those patents to others—subject to the licenses. In other words, those who buy the patents can sue anyone other than those who have already purchased a license from RPX. Although buyers who purchase the RPX patents may file infringement lawsuits, RPX itself does not.

The distinction between those who assert by licensing demands and lawsuits versus those who assert only by licensing demands would be problematic. From a practical perspective, much of the patent assertion activity occurs outside of litigation, and studies estimate that companies receive numerous patent licensing demands for every one that proceeds all the way to a lawsuit. All of these demands occur in the shadow of a potential lawsuit. A license, after all, is merely an agreement not to sue in return for a monetary payment, and the threat of a lawsuit is what drives companies to pay the licensing fee. If one is examining patent assertion behavior, it would make little sense to look only at assertions that progress all the way to a particular moment, rather than the other assertions that take place in the shadow of that moment.

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http://www.ftc.gov/speeches/ramirez/130620paespeech.pdf.

From an economic perspective as well, there may be very little difference between those who file lawsuits and those who do not—at least if those who do not file lawsuits are willing to transfer to others who will file suit. Imagine an entity that chastely refuses to file any lawsuits, but sells its patents to hypothetical nasty third parties, who do sue. The price of a patent when it is sold reflects the expected value of the lawsuit. Thus, the chaste entity receives the economic benefit of that lawsuit, even without having to file the suit itself. Moreover, the chaste entity's licensing activity benefits from the possibility of sale to those who will sue. In other words, implicitly or explicitly, target companies are encouraged to buy licenses from the pure entity, for fear that they will have to face a lawsuit from the nasty third party who might buy it. Again, the chaste entity benefits from a system in which patent lawsuits are filed, even though it does not file lawsuits directly itself. In short, a distinction between those whose assertion profile includes lawsuits and those whose assertion profile does not makes little sense.

The FTC avoids this problem, defining patent assertion entities to include those who assert by licensing demands as well as those who assert by lawsuits, but the agency adds its own variation on the theme. The FTC defines patent assertion entity to include only those who *purchase* and assert patents, the implication being that one who originally obtained the patent would be excluded.[23] The definition would exclude entities in the semi-conductor industry, such as Qualcom and Rambus, that spend large sums researching and designing products. Companies such as these may create prototypes to license others to produce but do not actually

[23] *See id.*

manufacture the product themselves. These entities have argued fervently that they should not be considered part of any definition related to patent trolls.

Some Congressional proposals contain a variant of this approach. They would exempt those who have expended significant resources in attempting to work the patent from provisions related to curbing patent assertion abuse.

This definitional issue is challenging. To the extent that society is concerned about those who assert patents as a business practice without contributing to the creation of products for society, the semi-conductor companies have a point. Engaging in significant research and development that leads to the creation of a viable product should be considered a productive activity, even if the company chooses to hire others to do the actual manufacturing. Economists generally would frown on a rule that required vertical integration—in other words, a rule requiring that one company engage in all levels of production necessary for a final product.

Nevertheless, defining patent assertion entities as only those who buy and assert patents risks omitting a significant amount of activity that could look much like the remainder of what falls within the definition. Consider the following: the patent system has operated for some time with a high percentage of rights that are never actualized.[24] These shadow rights have remained largely on the periphery of the patent system, creating no direct returns for the patent holder. In fact, studies

[24] One of the authors has described the issue of shadow rights, and problems with monetization of those rights, in greater detail. *See* Robin Feldman, *Intellectual Property Wrongs,* 18 STANFORD J.L. BUS. & FIN. 247, 261-263 (2013). We summarize that discussion here.

suggest that more than 90% of patents never create a direct return for the patent holder.[25]

Many of these patents, along with patents in general, may be of questionable value. The Patent & Trademark Office lacks the resources to examine the massive number of patent applications that come through its doors—not with the level of scrutiny required to eliminate weak patents, or weak claims within a patent. For example, one scholar has estimated that patent examiners spend no more than 18 hours on any patent application, and this time is likely to be spread over two to three years.[26] With patent applications containing dozens or even hundreds of claims, the available time is simply insufficient.

It is not just the patent as a whole that may be weak, even if some claims within the patent have merit, others may be of questionable validity. Patent drafters frequently write a range of claims, including very aggressive, broadly reaching claims down to much more narrow and specific ones.[27] Patent examiners may cull out some of the weaker ones, but with the limited time available to review each patent, examiners are not likely to catch all weak claims. Nevertheless, each individual claim can be launched on its own against a target company in an infringement claim.

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[25] Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. Pa. L. Rev. 66 (2005). (noting that estimates suggest that less than 5 percent of patents hold any value); *see also* Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 267 (1977).

[26] Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1500 (2001).

[27] *See* ROBIN FELDMAN, RETHINKING PATENT LAW (Harvard 2012) (describing how modern patents operate in chapter 2.

The system may have worked reasonably well when fewer patents were operationalized. Rather than concentrating resources up front, the legal system could focus its energy on the few patents that became valuable enough to make it to litigation.[28] In a system of intense monetization, however, every patent and every claim within it has the potential to be launched against product manufacturers to garner a return. The fact that it was written by the patent holder is no guarantee that it is better than any others.

Moreover, exempting those who have originated the patent could have the effect of merely altering how the business is organized, rather than significantly reducing the behavior. For example, rather than purchasing a patent from the original patent holder, the monetizer could simply join forces with the original inventor, either using the patent holder as a front for the monetization activities or simply funding monetization efforts by the patent holder in exchange for a healthy share of the returns. In that manner, the monetizer has now escaped the definition of "one who purchases and asserts patents" simply by not purchasing. The market has already developed complicated schemes in which product companies or aggregators fund the monetization activities of others, along these lines.

In addition, monetizers and aggregators could simply choose to get into the business of filing for patents. We could be inadvertently incentivizing the creation of

[28] *See id.; see also* Dan L. Burk & Mark Lemley, *Policy Levers in Patent Law,* 89 VA. L. REV. 1575 (2003); Christian Bessy & Eric Brousseau, *Technology Licensing Contracts: Features and Diversity*, 18 INT'L REV. L. & ECON. 459 (1998); Eric Brousseau & Christian Bessy, *Public and Private Institutions in the Governance of Intellectual Property Rights*, *in* INTELLECTUAL PROPERTY RIGHTS: INNOVATION, GOVERNANCE, AND THE INSTITUTIONAL ENVIRONMENT 243, 251 (Birgitte Andersen, ed. 2006); F. Scott Kieff, *The Case for Registering Patents and the Law and Economics of Present Patent-Obtaining Rules*, 45 B.C. L. REV. 58 (2003); *see also* Kelly Casey Mullally, *Legal (Un)certainty, Legal Process, and Patent Law*, 42 LOY. L.A. L. REV. 1109 (2010).

an industry of applying for patents for the purpose of monetizing them, rather than for the purpose of creating products for society.

There is a more subtle issue, however, involved in exempting the original patent holder from the definition of monetization. We have a romantic attachment to the notion of the inventor, which spills over into a romanticized image of those who hold patents.

I have described this romanticized image in the following manner:

> In the classic story of invention, a great thinker toils to create a wonderful innovation, files for a patent to protect what he or she has contributed to the store of human knowledge, and then produces a new product that enters the market, improving the lives of all citizens. In a variation on this theme, the valiant inventor, deeply immersed in the pursuit of innovation, lacks the capital, experience or interest to commercialize the invention. The inventor then simply licenses the patent to a third party, who brings forth the product for the betterment of society. Copyright tells a similar tale that features brilliant writers hunched over coffeehouse tables, or dedicated computer programmers toiling late into the night, accompanied only by caffeine and their dreams. [29]

It is a lovely story, and one that undoubtedly exists to some extent, but much of the modern patent world looks nothing like this.

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[29] Robin Feldman, *Intellectual Property Wrongs,* 18 STANFORD J. L. BUS. & FIN. 247 (2013); Mark Lemley, *The Myth of the Sole Inventor,* 110 MICHIGAN L. REV. 111 (2012).

In particular, most people assume that a patented invention translates into a product. This assumption could not be farther from the truth. Most products require a multitude of intellectual property in order to create a viable product. Such intellectual property may include numerous patents, as well as trade secrets and those wonderfully named components, "know how" and "show how." Even if the knowledge captured in the patent can be translated successfully into a product, that product must be developed further into a form that is stable and can be mass produced and distributed. The gap between a patented idea and a viable product is known colloquially as the "valley of death," a valley that only a few hardy souls are able to cross. Thus, most patent holders who try to develop a product are destined to become failed entrepreneurs.

Psychology research suggests that we often see our own property as of greater value than it is, and our own perspectives in a legal claim as of greater validity. One might anticipate that this distortion would be enhanced by those who are not repeat players and who have less experience in the arcane world of patent law, a description likely to apply to many individual inventors. Our fascination with the romanticized individual inventor could inadvertently fuel a cottage industry. Failed entrepreneurs, which most entrepreneurs are likely to be, would be encouraged to turn to patent assertion as a second career—a career that would provide a handy outlet for frustration over the inability to get a product off the ground. With monetizers willing to join forces and fund these efforts behind the scenes, if we exempt original patent holders from the definition of monetizers, we may simply shift the current modes of monetization—with all of their problems—

into a different form. Rather than curbing abuses, the result could be the same monetization with a different face.

I do want to stress one important issue. Rights are useless if one cannot enforce them, a concept that is as critical for intellectual property as for any other set of rights. Some small companies and inventors have complained that large companies are less than diligent, to put it mildly, in responding to complaints that their rights are being trampled. The system must be designed to avoid indifference to intellectual property rights, as well as to deter outright theft.

Nevertheless, exempting the original patent holder from the definition of patent assertion entities could backfire. The fact that the one asserting the patent also filed for the patent, or spent resources trying to commercialize it, is no guarantee that the patent is valuable or that it is being launched at an appropriate target. We should be wary of giving those who file patents a free pass from measures to curb monetization abuses.

In choosing the terms and definitions for this paper, I have decided to use the term monetizers. It has the advantage of not distinguishing among actors based on the form they choose, and referencing individuals as well as "entities." I also define monetizers as those whose core business involves licensing and litigating patents, rather than making products. It has the virtue of simplicity, and allows us to speak broadly about the phenomenon. I note, however, that the topic is complicated, and that in a politically charged atmosphere, every word is at issue.

One also must decide what to measure. As described above, prior work has explored monetization in the context of activity that reaches all the way to a lawsuit.

Activity before that time generally is shrouded in nondisclosure agreements and difficult to access through public documents. This study was intended to look at the effects of a range of patent activity. Thus, I chose the term "patent demands" and defined the term broadly to include demand letters, threats of litigation, or lawsuits. Specifically, respondents were asked whether they have "received patent demands, for example, demand letters, threats of litigation, or infringement lawsuits."

A Brief History and Overview of Startup Financing

Although today's technology startups have created the enduring image of the scrappy, underfinanced underdog that goes on to create the next Facebook from someone's garage, technology startups used to require massive investments to get off the ground.[30] Early venture capital-backed technology companies required sizable investments in manufacturing, engineering, personnel, and professional services in order to enter the market.[31] As a result, early tech companies like Digital Equipment Corporation (DEC) and Tandem had to get their funding from large venture capital firms such as Arthur Rock and Kleiner Perkins.[32]

Thanks to the success of these prototypical venture-backed initiatives, the operating model established by these early venture capitalists has endured to this day.[33] Under this model, venture capital firms "provid[e] capital to high-potential

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[30] Ben Horowitz, *How Angel Investing Is Different Than Venture Capital*, BUSINESS INSIDER (Mar. 2, 2010), http://www.businessinsider.com/how-angel-investing-is-different-than-venture-capital-2010-3.
[31] *Id*.
[32] *Id*.
[33] *Id*.

businesses in exchange for partial ownership of the firm."[34] Traditionally, venture capital funding has filled the crucial gap between early seed funding, such as money from friends and family, and later rounds of investment.[35] As protection for risking large amounts of capital on nascent businesses, venture capitalists take an active role in managing them, with the expectation that enough of these companies will become successful to provide sufficient returns on their investments.[36] By insisting on direct involvement in the operation of a company, commonly in the form of seats on the company's board, venture capitalists seek to leverage their significant experience in the relevant industry to provide new entrepreneurs with seasoned advice.[37] Venture capitalists also insist on certain downside protections that allow them to protect their investments in the company if circumstances change.[38] For example, venture capitalists will usually require that their interest in a company be issued as preferred equity that comes with a liquidation preference, which allows the venture capitalist to get its money out first if the company gets liquidated.[39] Another common requirement for a venture-backed deal is anti-dilution protection, which allows the venture capital firm to maintain its percent of equity ownership in the event of a subsequent round of financing by requiring that the venture capital firm gets issued additional shares to preserve its current equity position, at the

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[34] Brian L. Dos Santos, Pankaj C. Patel, & Rodney R. D'Souza, *Venture Capital Funding for Information Technology Businesses*, 12 J. Ass'n Info. Sys. 57, 59 (2011).
[35] Bob Zider, *How Venture Capital Works*, Harv. Bus. Rev., Nov.-Dec. 1998, at 131, 132.
[36] *Id*.
[37] *Id*. at 139.
[38] Zider, *supra* note 35 at 134.
[39] *Id*.

expense of common stockholders.[40] Though these requirements can entail significant sacrifices on the part of founders, the risky nature of investments in their companies often leaves little choice.

The importance of venture capitalists' willingness to invest in high-risk companies must not be understated. In particular, this willingness provides an essential lifeline to entrepreneurs, whose businesses usually cannot access lower-cost capital early on due to their minimal assets.[41] "Uncertainty is inherent in startup companies because their innovative products and business plans are untested at the time of investment."[42] Given how difficult it is for a new startup to achieve early success in its chosen market, if venture capitalists were not tolerant of failure, many promising startups would otherwise be liquidated after early progress proved unsatisfactory.[43] This risk tolerance does far more than prevent a venture capitalist's early exit. Research shows that those venture capitalists that are more tolerant of failure tend to pick more innovative startups to invest in.[44] In turn, startups supported by such venture capitalists have more successful initial public offerings and produce greater numbers of patents - patents that tend to have a greater impact on their respective markets.[45] In general, venture-backed businesses

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[40] *Id.*
[41] Zider, *supra* note 35 at 132-133.
[42] Abraham J.B. Cable, *Fending for Themselves: Why Securities Regulations Should Encourage Angel Groups*, 13 U. PA. J. BUS. L. 107, 121 (2011).
[43] Xuan Tian & Tracy Yue Wang, *Tolerance for Failure and Corporate Innovation*, REV. OF FIN. STUD. (forthcoming) (manuscript at 1), *available at* http://ssrn.com/abstract=1399707.
[44] *Id*. at 2.
[45] *Id*.

have a significantly higher rate of survival than those without venture backing. "[46] It is unsurprising, then, that in the years since their rise to prominence, venture capital firms have become "important intermediaries in financial markets, providing capital to new ventures that might otherwise have difficulty attracting financing."[47]

Although venture capital firms remain an important part of startup financing, a lot has changed since the early days of the tech industry, and the needs of newly-formed startups are now quite different. Modern startups are far less capital-intensive than they used to be, and now frequently require less money than the typical minimum venture capital investment.[48] As a result, there is often what some have called a "funding gap" between the amount covered by seed funding, which is usually below $500,000, "and the minimum amounts venture capital funds invest . . . [which is] typically $5,000,000."[49] In addition, venture capitalists may ask for more control than a modern startup can afford in its earliest stages. In addition, venture capitalists have a lengthy diligence process and can take up to six months to decide whether they will invest, which may be far too slow for a startup in dire need of funds.[50] Finally, and quite significantly, venture capitalists may leverage their equity ownership and board seats to force a founder out of the company if the

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[46] Dos Santos et al., *supra* note 34 (citing A. L. Zacharakis & G. D. Meyer, *Lack of Insight: Do Venture Capitalists Really Understand Their Own Decision Process?*, 13 J. Bus. Venturing 57, 57-76 (1998)).
[47] Dos Santos et al., *supra* note 34 at 58.
[48] Cable, *supra* note 42 at 108; *see also* Horowitz, *supra* note 30.
[49] Cable, *supra* note 42 at 108.
[50] Martin Zwilling, *Top 10 Sources Of Funding For Start-ups*, FORBES (Feb. 12, 2010), http://www.forbes.com/2010/02/12/funding-for-startups-entrepreneurs-finance-zwilling.html; *see also* Horowitz, *supra* note 30.

venture capitalist determines he or she is responsible for poor performance, an aspect that founders would, understandably, wish to avoid.[51]

As a result, funding sources outside the traditional venture-backed system have risen in prominence to meet the changing needs of founders. One such source is the angel investor, a wealthy individual that funds promising startups before they are ready for venture capital.[52] Unlike venture capitalists, angel investors usually do not insist on control rights like board seats, leaving founders with the ability to control their company's direction and strategy for longer.[53] Angels are also willing to invest smaller amounts of money, which helps fill the "funding gap" and allows founders to raise money from a greater number of sources.[54] Combined with the fact that angels often use their connections to bring other angels on board, companies can sometimes get by on an initial financing consisting solely of angel investments.[55] Nevertheless, companies backed solely by venture capitalists do better overall than those with backing from a combination of venture capitalists and angels or angels alone, although research has shown "that companies with angel-only financings were significantly less likely to fail than companies receiving venture financing."[56]

An even more recent development is the rise of startup incubators, which provide not only financial resources but also strategic planning assistance and

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[51] Zider, *supra* note 35 at 136.
[52] Cable, *supra* note 42 at 108.
[53] *Id*. at 129.
[54] *See* Horowitz, *supra* note 30.
[55] Cable, *supra* note 42.
[56] Cable, *supra* note 42 at 129.

infrastructure like office space and computer equipment, in exchange for equity.[57] Participants benefit both from this expert guidance, but also from the ability to network internally with other companies being supported by the same incubator.[58] Furthermore, a fledgling startup can stick with an incubator from inception straight through its initial public offering, should it come to pass. In fact, since many incubators focus on early stage companies, they often sell their interests once the company goes public, thus focusing more on short-term profit than long-term influence over the company.[59]

Although the process by which potential investors engage with startups can vary greatly depending on the parties involved, one increasingly common factor considered by many investors – particularly in the technology industry – is the strength of a company's intellectual property position. In today's highly competitive landscape—in which investors are presented with numerous possible ventures with each seeking support for a new, unproven technology—a company's intellectual property situation can make a large difference in determining which companies ultimately get funded. Research has shown that there is a "marked correlation between success" as measured by a company achieving its initial public offering or getting acquired "and a company having developed (or possessed) intellectual property," a correlation that is "even greater . . . [when] companies . . . have good or

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[57] Meredith M. Brown, Michael P. Harrell, & William D. Regner, *Internet Incubators: How to Invest in the New Economy Without Becoming an Investment Company*, 56 Bus. Law. 273, 273 (2000).
[58] *Id*. at 273-274.
[59] *Id*. at 274.

strong intellectual property positions."[60] As one venture capitalists has commented, "[it is] impossible to get financing without a good patent strategy, freedom to operate and good prospects of patentability."[61]

Given the importance of venture backing to the startup community, as well as the advantage of a concentrated body of respondents, this study examines the viewpoints and experiences of venture capitalists and their portfolio companies in relation to patent demands. Details of the study are provided in the design and methodology section below.

Design of Study and Participants

The study was conducted in September and October of 2013. Two surveys were prepared, one for venture capitalists and one for companies within the portfolios of those venture capitalists. Both surveys were submitted to the Western Institutional Review Board, which determined that the research met the exemption criteria for human subjects research under 45 CFR §46.101(b)(2).[62] The surveys were prepared for distribution through the National Venture Capital association. The survey language was tested by staff members of the National Venture Capital Association, as well as by selected board members of the Association who volunteered to serve as testers.

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[60] Joseph Hadzima, Bruce Bockmann, & Alexander Butler, *IP in early stage commercial and investment success*, INTELLECTUAL ASSET MGMT., Mar.-Apr. 2010, at 52, 52.

[61] Colleen V. Chien, White Paper for Open Technology Institute, *Patent Assertion and Startup Innovation*, NEW AMERICA FOUNDATION (2013) at 20, *available at* http://ssrn.com/abstract=2321340.

[62] *See* Letter from Western Institutional Review Board dated September 4, 2013 (on file with author).

The National Venture Capital Association distributed both versions of the survey by email to their member venture capitalists, asking that the members fill out the venture capital survey themselves and distribute the company survey to their portfolio companies. Participants were told that the responses would be anonymous and reported only in the aggregate. The results were delivered to the author in anonymized form.

The National Venture Capital Association has not taken a position on patent assertion. In introducing the survey, member companies were told the following:

> In light of recent patent reform discussions on Capitol Hill, the NVCA is working with Robin Feldman, Professor and Director of the Institute for Innovation Law at University of California Hastings to gather information about the current environment for patent assertions within the venture-backed company community. While we have anecdotal information that patent trolling has become increasingly problematic for many of our members and their portfolio companies, particularly in the IT space, we do not have data to quantify the size and breadth of the issue.

The survey included questions about the respondent's individual experiences followed by questions about the respondent's overall impressions. In order to ensure that answers about the respondent's individual experiences were derived from direct experience to the extent possible, venture capital respondents were asked to answer the direct experience questions only for companies "upon whose boards you personally sit as an investor."

Participants were also asked if they would be willing to participate in further confidential research. Approximately 50% of the venture capitalists and 50% of the portfolio companies were willing and provided contact information. That contact information was delivered to the author separately from the individual answers and will be held for further qualitative research. (It is interesting that precisely half of each group was willing to speak further and half was not.)

Early in the survey, participants were asked whether they or one of their companies has ever received patent demands. Those who answered, "no" were routed directly to the final set of questions related to the respondent's perceptions of patent demands.

Study Limitations

Research through voluntary responses always contains significant limitations. The results can be skewed by those who choose to respond, presenting less than a full picture of the experiences of all members of the group. Similarly, the framing of the question can create a demand problem, priming those who have experienced the problem to respond. Most important, the answers represent the respondent's perceptions and cannot be individually verified. For example, if a respondent notes that the company has spend $50,000 responding to patent assertions, there are no public documents or other independent data to verify the figure.

Individual perceptions, however, may be useful for some of the inquiries in this type of survey. For example, to the extent we are examining whether the issue

of patent demands occupies an entrepreneur's mindshare, thereby potentially causing distraction, the entrepreneur's own impression of whether a problem exists can be helpful.

Along the same vein, if legislators and regulators believe they are responding to the needs of a particular sector of the market, it is useful to know whether that sector of the market agrees. For example, to the extent governmental officials believe patent assertion is necessary to attract venture capital for startups, it is important to know whether the venture capitalists have the same perception. Nevertheless, perceptions are no guarantee of reality for issues such as how widespread a problem may be or the ways in which it is manifesting itself.

I note in particular that the results may be skewed by the large percentage of respondents who operate in the information technology sector. This could reflect a particular interest of those in the information technology section in the issue of patent demands. It could suggest that patent demands are particularly a problem in that sector, an issue that will be addressed further below. It could also simply suggest that a larger portion of venture-backed companies are in the information technology industry. Nevertheless, it is important to note the prevalence of responses from that sector.

Looking at both venture capitalists and their portfolio companies not only provided a broader sample, it also allowed a comparison of whether the companies themselves agreed with their venture backers about the extent of the problems, the cost involved, etc. In other words, it provided some small measure of consistency confirmation.

Research of any kind into patent demand activity is quite difficult. Although one can study patent demands that proceed to a fullblown lawsuit, evidence suggests that these are only the tip of the iceberg. For patent demand activity outside of the courthouse, information is scarce. Patent interactions are shrouded in nondisclosure agreements, Moreover, for a number of years, companies have been reluctant to speak to reporters or researchers, partly out of fear of retaliation by large players with large patent portfolios.[63] Thus, an anonymized survey, despite its many limitations, offers a useful vehicle for beginning to understand the issues at hand.

Finally, in noting limitations, it is important to note that a sample size of 200 respondents is small. The experiences and observations are useful for understanding the venture-backed company community, and the information is important, in light of the research obstacles described above. Nevertheless, any observations should be tempered with the caution appropriate for a grouping of this limited size.

General Characteristics of Respondents

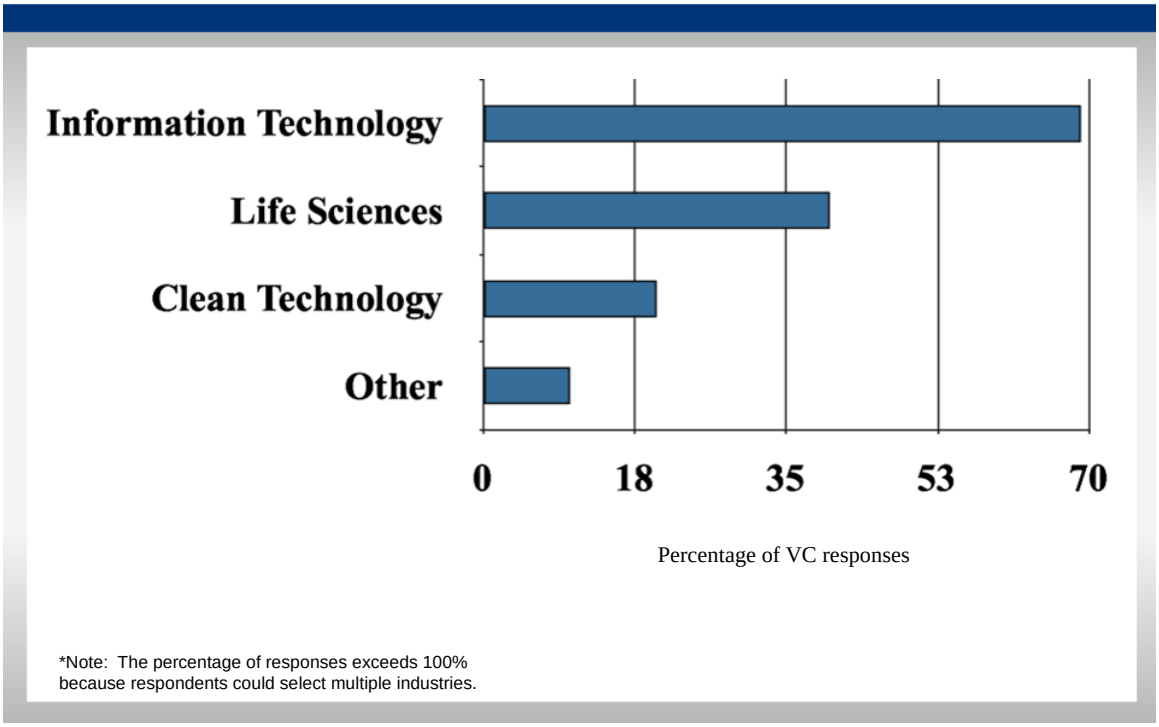
Respondents were given a choice of choosing information technology, life sciences, clean energy or other as the sector in which they operate. Venture

[63] *See, e.g.* Tom Ewing & Robin Feldman, *The Giants Among Us,* 2012 STANFORD TECH. L.R. 1, 2-3. (quoting National Public Radio report noting that "[W]e called people who had licensing arrangements with [a patent aggregator], we called people who were defendants in lawsuits involving [the aggregator's] patents, we called every single company being sued by [a monetizing shell company]. No one would talk to us.); *see also* Alex Blumberg & Laura Sydell, This American Life: When Patents Attack (National Public Radio broadcast, July 22, 2011)(transcript available at http://www.npr.org/blogs/money/2011/07/25/138576167/when-patents-attack)

capitalists were permitted to mark all categories that apply, with the result that the total exceeds 100%.

Of the venture capitalists that responded, 68% have portfolio companies operating in the information technology sector. 41% of the venture capitalists have companies operating in the life sciences sector and 19% in the clean technology sector. 10% of the venture capitalists have companies operating in sectors other than those categories, and respondents described those sectors as consumer apparel, oil and gas, retail, new media, industrial technology, and growth equity.

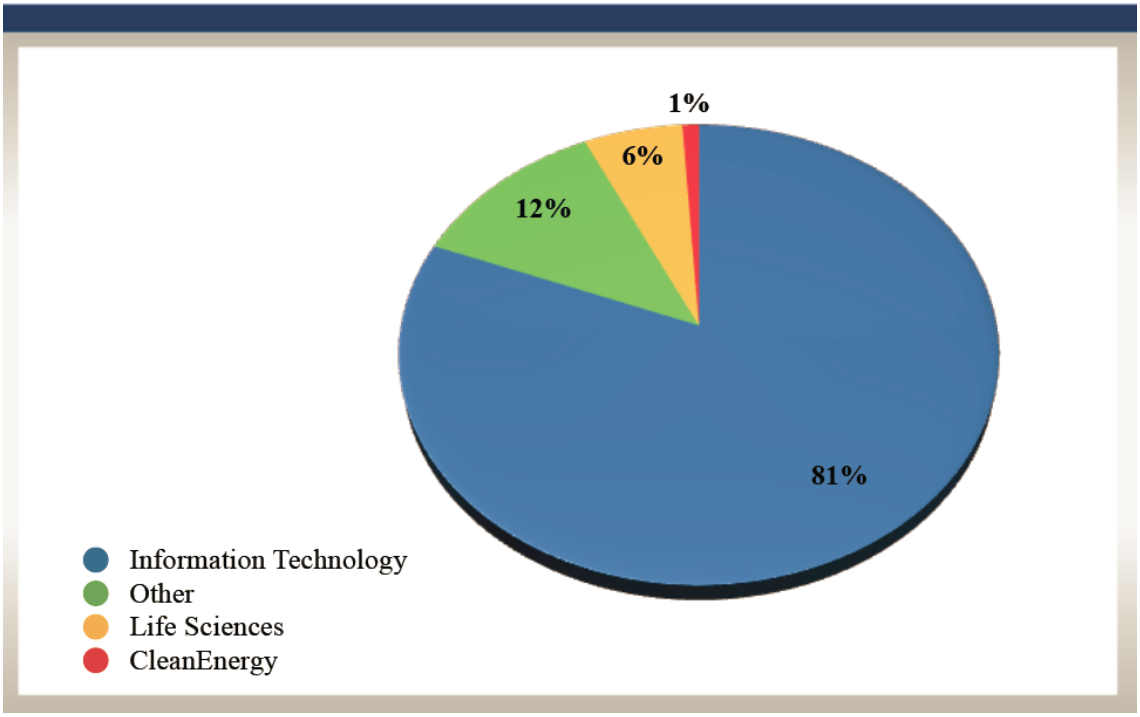
In which sectors do your portfolio companies operate?*



The portfolio companies that chose to respond were even more strongly concentrated in the information technology sector, with 81% of respondents indicating that they operate in information technology. 6% of the companies

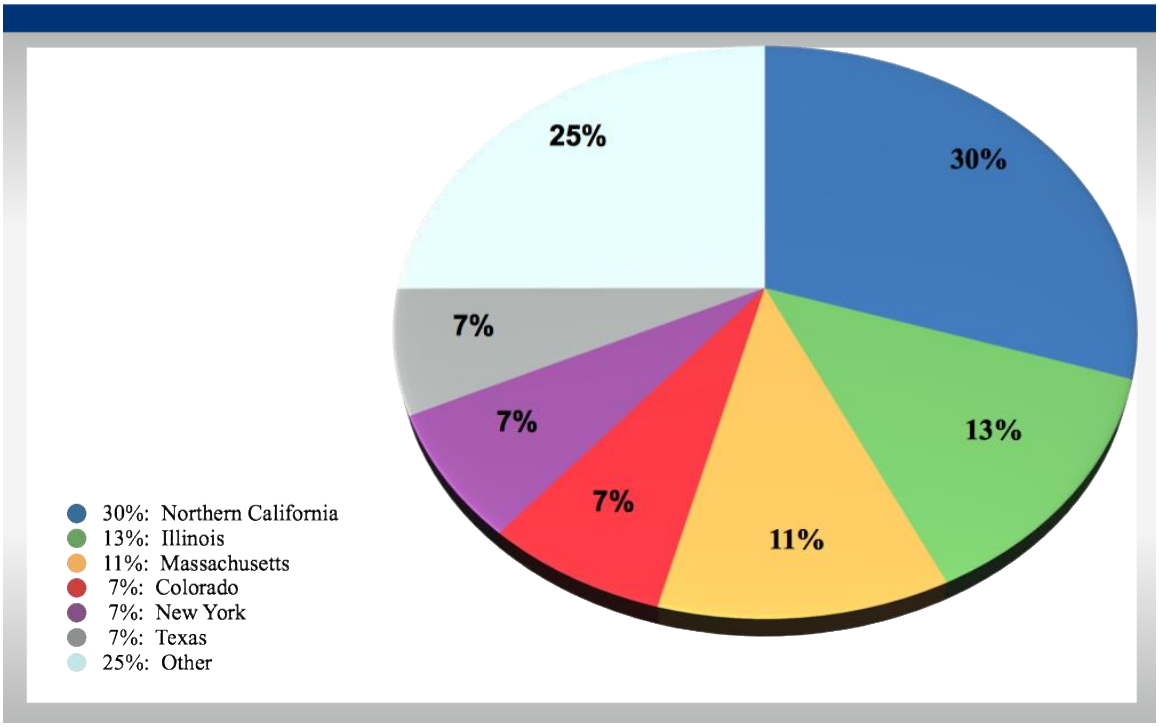
operate in the life sciences and only 1% in clean energy. 12% of the portfolio companies indicated that they operate in other sectors, which they further described as Internet technology, consumer electronics, consumer technology, eCommerce, eCommerce retail, retail, 3D printing, health information technology, Finance, consumer apparel, and education.

In which sector does your company operate?



Portfolio companies were also asked where their company is located, and the results mirror common perceptions of startup hubs. The largest group (32%) was located in California, with most of that in Northern California. Other groupings were located in Illinois (13%), Massachusetts (11%), New York (7%), Colorado (7%), Texas (7%), Wisconsin (4%), Virginia (2%), and Washington (2%). Appendix A contains a list of respondent locations by state.

Location of startup company headquarters



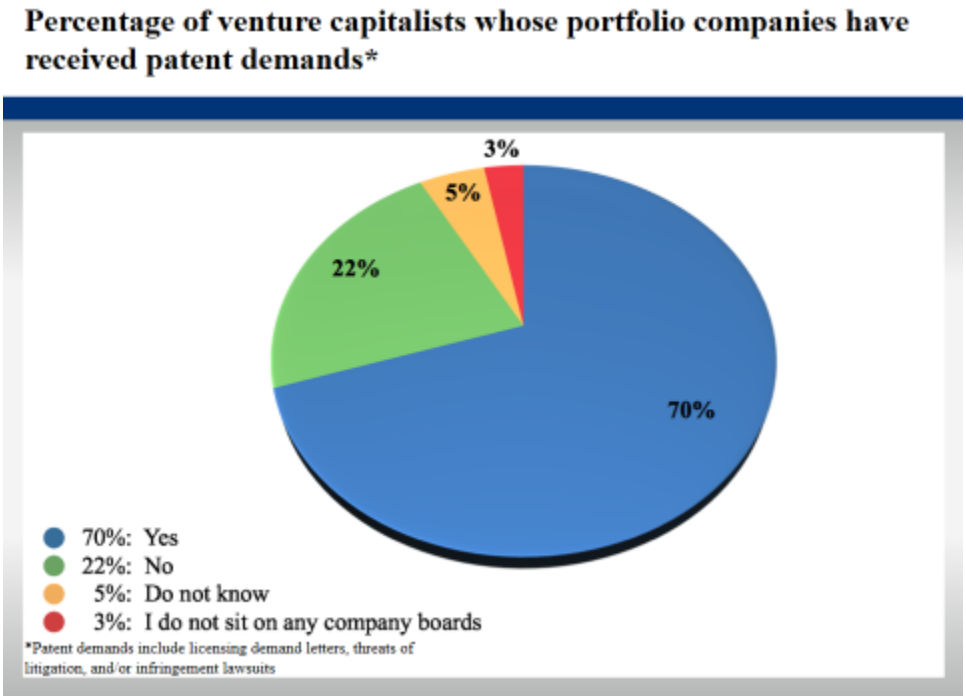
RESULTS

The paper will separate the results into the following sections. The first section looks at the extent of patent demands against venture-backed companies, based on the direct experiences of the venture capitalists and their portfolio companies. This section also considers whether patent demands are a technology sector problem only. The second section examines the source of patent demands against venture-backed companies and the timing of those demands. The third section examines the impact of patent demands, looking at both the economic impact and the personal toll on the individuals involved. The fourth section examines the respondents' perceptions of whether patent assertion is helpful or harmful for the venture-backed community and how patent demands affect a venture capitalist's decision whether to fund a company.

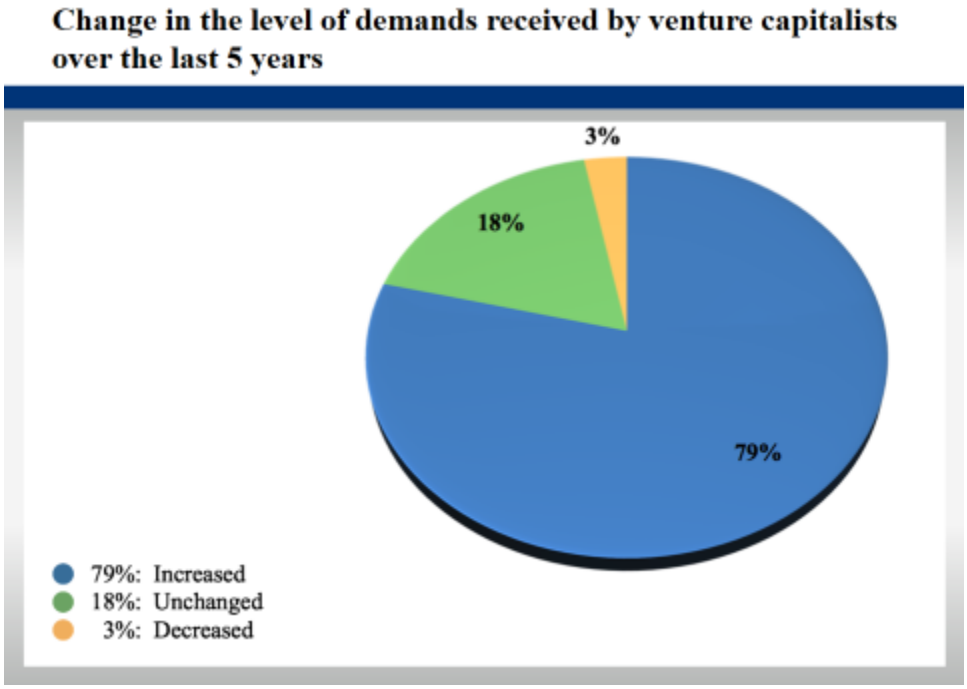
The Extent of Patent Demands Against Venture-Backed Companies

Survey responses suggest an extensive amount of patent demand activity against venture-backed companies. Specifically, the survey asked venture capitalists whether any of their portfolio companies have received patent demands. Patent demands were defined broadly, with the question listing licensing demand letters, threats of litigation, and infringement lawsuits as examples of patent demands. The survey asked venture capitalists to respond only for companies on whose boards they sit personally as an investor.

70% of the venture capitalists reported that they have portfolio companies that have received patent demands.



In addition, the venture capitalists were in general agreement that patent demands are increasing against venture-backed companies. ***79% responded that the number of patent demands have increased over the last five years*** for their portfolio companies overall.



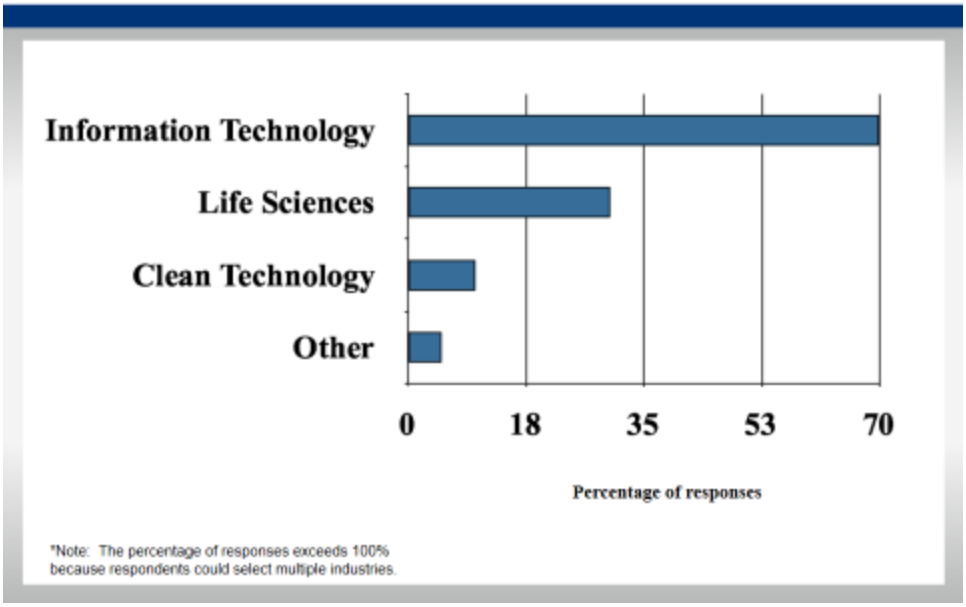
The data suggest, however, that the phenomenon is best understood on an industry wide basis, in other words, looking at the venture-backed industry as a whole. Not all portfolio companies have received patent demands. For example, with venture capitalists whose companies have received patent demands, 60% have seen demands asserted against up to one-quarter of their portfolio companies, and 35% have seen demands asserted against between one-quarter and half of their portfolio companies. Similarly, with the portfolio companies themselves, 31% have received patent demands. Even the 31% number, however, is striking. It suggests

that ***roughly 1 in three venture-backed companies must figure out how to respond to a patent demand.***

On the whole, patent demands continue to dominate in the information technology sector. Venture Capitalists whose companies had received patent demands were asked whether they had experienced those demands in the information technology sector, life sciences, clean energy or other. Again, to account for broad venture portfolios, venture capitalists were permitted to mark all categories that applied, with the result that the total will exceed 100%.

Of the venture capitalists whose companies have received patent demands, ***70% have experienced those demands in the information technology sector.*** Patent demands, however, are not limited to the information technology sector. ***30% of the relevant venture capitalists had received patent demands in the life sciences sector*.** In addition, 10% have received patent demands in the clean energy sector, and 5% in other sectors.

Sectors in which venture capitalists have experienced patent demands

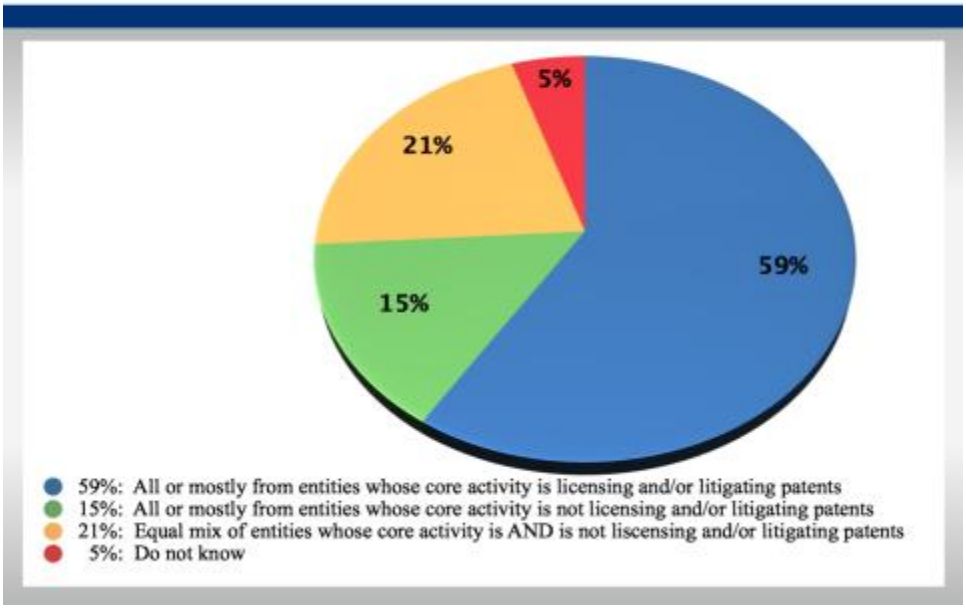


Source and Timing of Demands

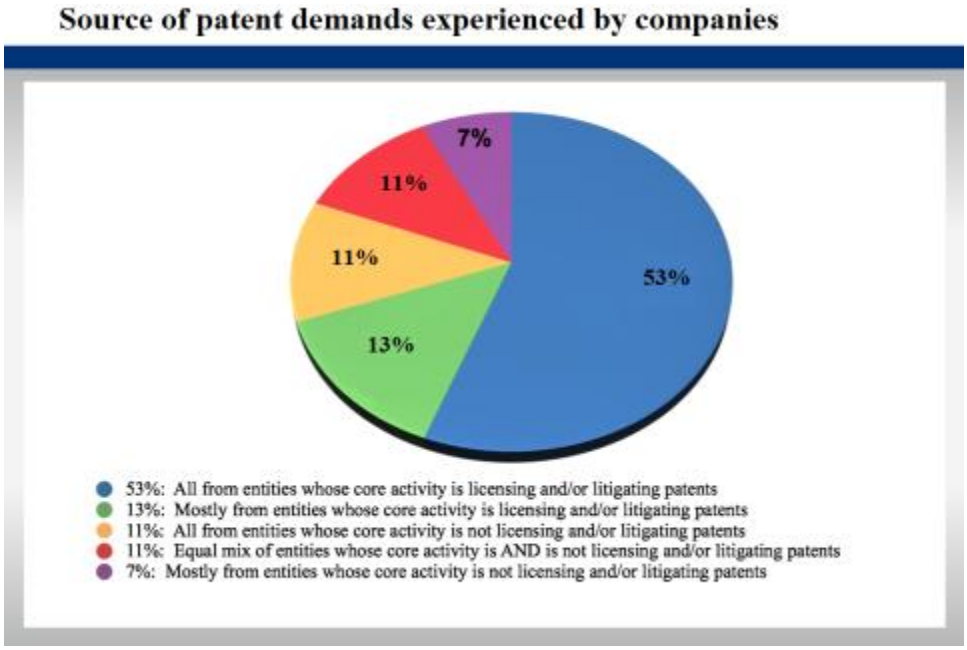
The study asked both the venture capitalists and the portfolio companies if they could identify the type of entities initiating the patent demands against them. As described in the methodology section above, respondents were asked whether the patent demands came from entities whose core activity is licensing and/or litigating patents as opposed to those whose core activity is not licensing and/or litigating patents.

For 59% of the venture capitalists, the patent demands came either all or mostly from those whose core activity is licensing or litigating patents. For another 21% of the venture capitalists, the demands came from an equal mixture of those whose core activity is licensing and litigating patents and those whose core activity is not. The question allowed respondents to answer separately for "all" or "most", although the chart below groups those responses.

Source of patent demands experienced by venture capitalists



The portfolio companies responded with similar percentages on this question. ***For 66% of the portfolio companies, the patent demands came either all or mostly from those whose core activity is licensing or litigating patents.*** For another 11% of the portfolio companies, the demands came from an equal mixture of those whose core activity is licensing and litigating patents and those whose core activity is not. ***These results suggest that monetizers are initiating most of the patent demand activity against startups.***



The study also looked for evidence of whether patent demands were timed to correspond with funding infusions. Anecdotes have circulated in the venture-backed community of companies receiving demands immediately after receiving their first round of funding. The results, however, did not reveal evidence of widespread patent demands related to receiving initial funding. Only 11% of portfolio companies reported receiving patent demands within one year of receiving their first round of venture funding, and 53% reported that they received their first patent demand more than a year after receiving the first round of venture funding. Moreover, 27% of the portfolio companies received their first patent demand before receiving any funding at all. Thus, we could find no systematic evidence of demands timed to coincide with initial rounds of venture funding. In contrast, in Chien's interviews with venture capitalists, some noted that demands "seemed to be

dictated by an event in the company's development—publicity/success, an M&A or funding event, or the company's IPO."[64]

Examining the initial round of venture funding cannot completely answer the question of whether there are patterns of demands timed to coincide with funding event. It is possible that monetization involves a variety of approaches, with some monetizers targeting funding events. It is also possible that monetizers target funding events on the whole, and no pattern would emerge from looking only at initial funding. Nevertheless, focusing on initial funding, we did not find evidence of a sustained pattern of patent demands against venture-backed startups following their initial round of funding.

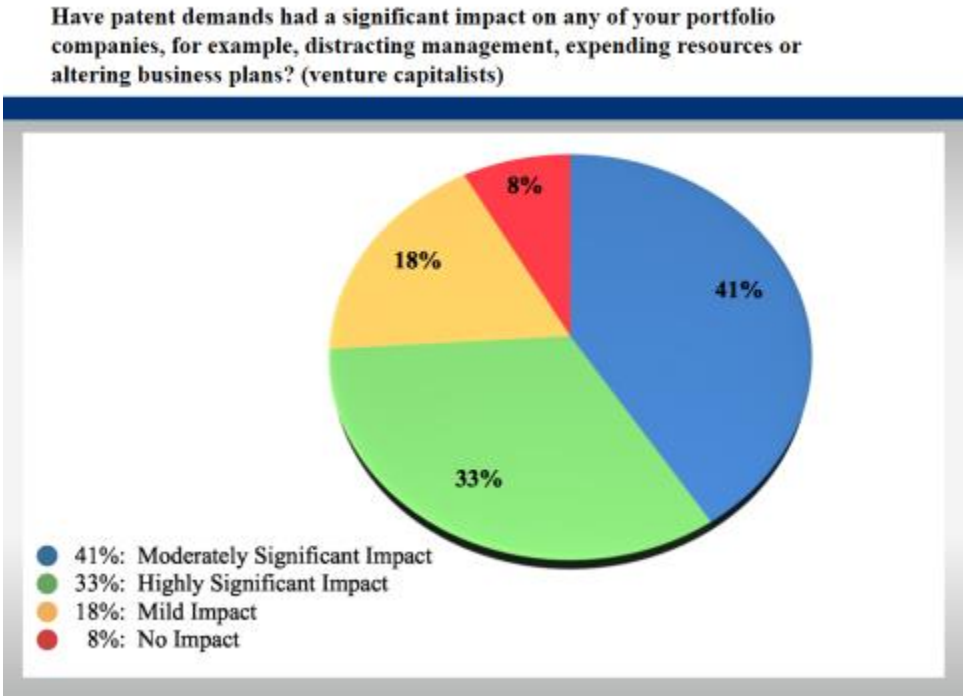
Impact of Patent Demands on Venture-Backed Startups

The study also examined the impact of patent demands on venture-backed startups, both from a quantitative and a qualitative perspective. Venture capitalists were asked whether patent demands had a significant impact on any of their portfolio companies. Examples of significant impact listed in the question included distracting management, expending resources, or altering business plans.

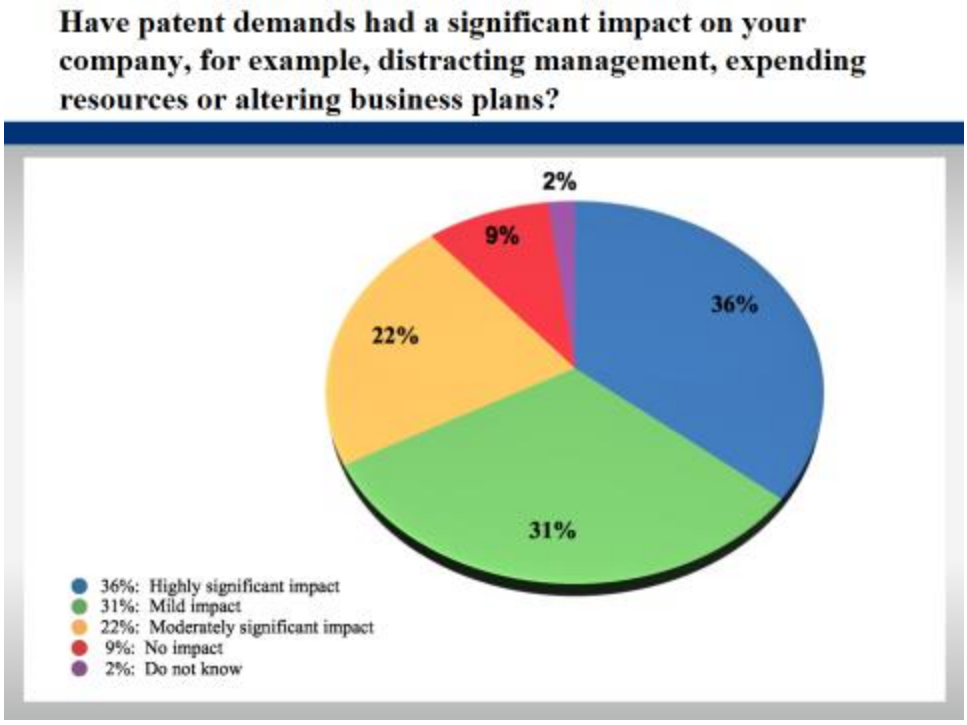
Only 8% of the venture capitalists reported that the patent demands had no impact on any of their portfolio companies that received them. In contrast, ***74% of the venture capitalists reported that patent demands had either a highly significant or a moderately significant impact on the companies that received them, including distracting management, expending resources, or altering***

[64] *See* Chien, New America Foundation White Paper, *supra* note 10, at 11.

business plans. Another 18% of the venture capitalists reported that patent demands had a mild impact.



With the portfolio companies, 58% reported that patent demands had either a highly significant or moderately significant impact on their company, including distracting management, expending resources or altering business plans. Another 31% reported that patent demands had a mild impact. Similar to the venture capitalists, only 9% of the portfolio companies reported that patent demands had no impact at all.



Using a more drastic definition of impact, Professor Colleen Chien found that 40% of startups in her study that had received a patent demand from a patent assertion entity reported a "significant operational impact."[65] Professor Chien defined significant operational impact as "a business strategy pivot, product change, business/business line exit, delay in hiring or meeting operational milestone, and/or a reduction in the value of the company."[66] Although the questions differ in both the type of impact studied and the issue of the source of the relevant patent demands measured, both studies demonstrate the impact that patents demands are having on startup companies.

In terms of the cost of dealing with patent demands, the present survey

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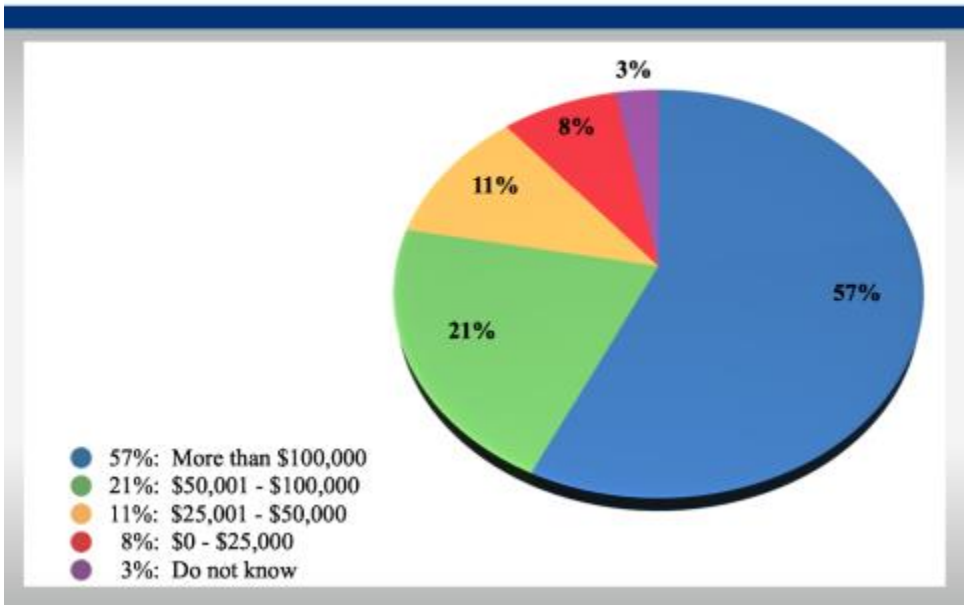
[65] *See* Colleen Chien, *Startups and Patent Trolls*, Report from the New America Foundation's Open Technology Institute, available at http://ssrn.com/abstract=2146251

[66] *See id.*

asked both venture capitalists and portfolio companies to estimate the average cost to prepare for and defend against patent demands. For the venture capitalists, the survey asked for an average cost per company. The questions noted that such costs could include time for company officers and employees, costs of outside counsel and consultants, or other costs.

57% of the venture capitalists estimated that the average cost per company to prepare for and defend against patent demands exceeds $100,000. Another 21% estimated that the cost of preparing for and defending against patent demands totaled between $50,000 and $100,000.

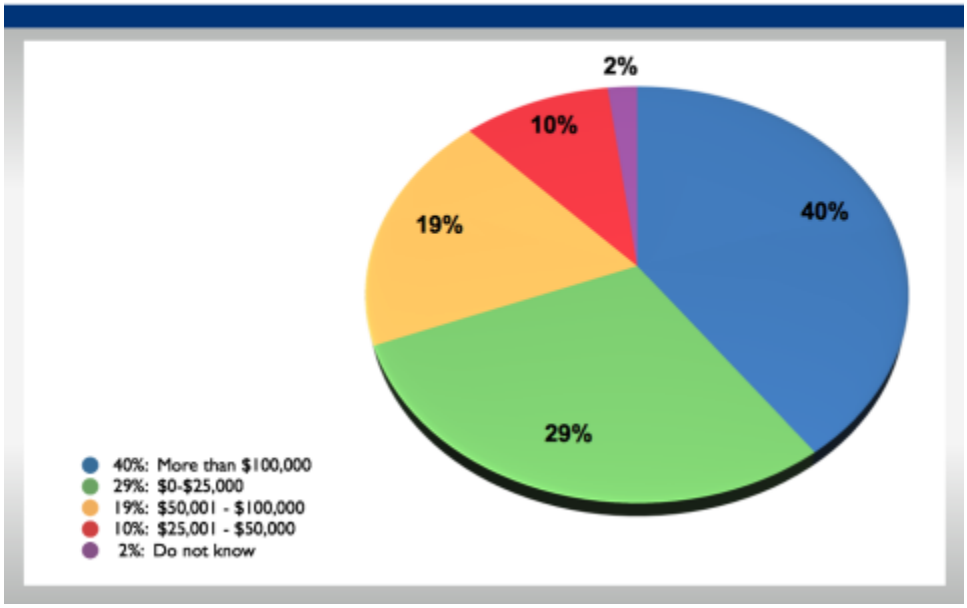
Average cost per company to prepare for or defend against patent demands as experienced by (venture capitalists)



Portfolio companies estimated the costs of preparing for and defending against patent demands at a lower number. Only 40% of the portfolio companies estimated that costs of patent demands exceeded $100,000, in comparison to 57%

of the venture capitalists. In addition, 29% of the portfolio companies estimated the costs at below $25,000, in contrast to 8% of the venture capitalists who estimated the cost at below $25,000. The two groups were roughly in agreement with each other for the percentage of companies that spent between $50,000 and $100,000, as well as for the percentage of companies that spent between $25,000 and $50,000.

Approximate cost per company to prepare for or defend against patent demands as determined by startup companies.



Professor Chien's survey suggests a higher average cost for defending against patent demands. Again, her study was based on the costs of defending against patent demands specifically by patent assertion entities—similar to what this study describes as monetizers.[67] Depending on whether the startup chose to settle or fight, the average costs reported in Chien's survey and interviews ranged from $168,000

[67] For a description of different terms used in the discussion of patent demands, see text accompanying notes, 14-29, *supra.*

to $857,000.[68] These higher figures may reflect the ability of patent assertion entities to impose higher costs on their targets.

The Human Factor

The most striking results in the study flowed from the venture capitalists and portfolio companies who took the time to provide details of the impact of patent demands on their companies. The survey provided space for respondents to elaborate on the impact of patent demands, and elaborate they did.

Extraordinary Impacts

Some companies and venture capitalists described extraordinary effects of patent demands on a particular company. ***One company had to raise a bridge round to cover costs related to dealing with patent demands. Another company spent millions of dollars defending against a lawsuit from "patent trolls," and the company went under due to lack of funding.*** One venture capitalist described an "M&A [mergers and acquisitions] transaction escrow held up and millions spent in defense of meritless patent suit from a patent troll." Another described a couple of cases in which the companies experienced material financial impacts.

Distractions to Management and Engineers

Numerous companies and venture capitalists spoke about the major distractions to management and other employees of the company, including time

[68] *See* Chien, *supra* note 65, at 2.

spent by engineers. One company noted pointedly that ***about 40% of the chief technical officer's time was redirected to fighting two patent infringement lawsuits filed within three weeks of each other***. Another company explained that patent demands had absorbed ***hundreds of hours of the CEO's time*** and another simply noted that it was a "huge distraction." Many companies described loss of management time to respond to discovery questions and develop a response strategy, and loss of engineering time to make technical workarounds. Over and over again, the companies and the venture capitalists talked about distraction of time and wasted resources.

Cost Impact

Other companies and venture capitalists underscored the impact of specific costs and the way in which patent demands now add to the general costs of doing business. For example, one venture capitalist noted that, "[m]ost of portfolio companies now need to hire an in-house general counsel to manage intellectual property matters, including defense against infringement claims. This is becoming a strategically important position to fill."

In asking the companies and venture capitalists to estimate the cost of defending against patent demands, the survey had listed "over $100,000" as the highest number. In the comments section, however, ***a number of the companies and venture capitalists described costs running into the millions of dollars.*** In the highest number cited, one startup company explained that it has spent $4 million in litigation expenses. A number of others simply referred to costs in the

millions of dollars. ***One company reported that the cost of dealing with patent demands is the company's second biggest expense after salary, and that it is even larger than the cost of benefits***. Others reported diverting money to legal counsel, as well as huge amounts of time spent by management and by the board. As one company noted, "we have had to invest time researching the background of the plaintiffs, the patent, the claim . . . etc. internally to determine how to defend ourselves from patent demands. . . . We expect to expend more resources as we engage counsel to defend ourselves from the suit. We are still at initial stages for our first lawsuit against an NPE."

The Human Face

Some companies and venture capitalists described the sheer human toll on those who had to contend with patent assertions.

> ***We received a [cease and desist demand] from a patent troll on Christmas Eve 2011. The experience was new to us, and at the time, it seemed like an existential threat. It ruined my family's Christmas. The troll filed a lawsuit in the spring of 2012. The entire process lasted almost a year and completely distracted our company during the entire event. It took a huge emotional and financial toll on our small company, in addition to slowing down our progress.***

One startup company used the following terms to describe the impact on the company: ***"Abject fear we are being driven out of business so this troll can put a***

trophy on his wall." In a similar vein, one venture capitalist spoke about the damage to employee morale. Another company commented, **"I consider this process to be extortion."**

These comments echoed the narratives Professor Colleen Chien has reported in her interviews with a group of small technology companies that had received patent demands from non-practicing entities.[69] Two of the most poignant comments from ***Professor Chien's research*** are the following:

> ***It was agonizing to hand over all the money we had earned from a product we had invented and created ourselves to a firm that invents nothing and creates nothing. Our founder has since lost his house, car [sic] all his assets.[70]***

And

> ***They sued my startup for infringement on a group of insanely broad software patents. While many much larger companies are fighting we do not have the resources to do so. It is the single most frustrating experiences [sic] I've had professionally. Extortion, pure and simple. The troll even admitted his model was to sue everyone, get settlement dollars because fighting was too expensive.[71]***

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[69] *See* Colleen Chien, *Startups and Patent Trolls*, Report from the New America Foundation's Open Technology Institute, 12-14 available at http://ssrn.com/abstract=2146251

[70] *Id* at 14.

[71] *Id.*

Managing Customers, Prospects, and Funders

Other companies and venture capitalists described the difficulties of managing the issue with customers, prospects and funders. One company noted that it had to "sell around the story as new prospects were wary of using the product given the litigation," and a venture capitalist talked about the problem of slowing down sales "as prospective customers assess the risk of claims on the likelihood that the product and support will be available." Another venture capitalist talked about the impact of slowing down next rounds of fundraising. These can be critical issues for a fledgling company, when every funding prospect and every customer matters in trying to gain traction.

More Moderate Impacts

A small number of respondents noted more moderate impacts, such as "slightly reorganized business to reflect patent" and "moderate $ spent externally on legal counsel." One company noted that so far, they have been able to successfully demonstrate they are not party to any of the claims. In addition, one venture capitalist noted that the impact can be "highly variable."

Weak Claims; Wasteful Process

Finally, many expressed frustration at what they perceive to be the weaknesses of the claims, the wastefulness of the process, and the absurdity of the current process of patent demands as a whole. For example, one company described the following experience:

> ***We spent millions to settle pretty much completely spurious claims. The common approach that these "entities" took was: --make a claim--try to defend it as best they could--eventually offer to settle by observing that it would cost us $3-5 million to fight it and we might lose, vs. the #2-3 million they offer to settle initially . . . we'd work to negotiate them down to $1-2 million, hold our nose, and pay.***

Another noted that the patent asserted against the company was "broad reaching and has been poorly received [in the industry]." Yet another company reported that after spending $1 million on a case that went to litigation, the company won but did not recover anything more than court costs, which are typically a small amount. Numerous companies and venture capitalists described the claims as frivolous and no more than nuisance claims.

One venture capitalist took the time to write a side letter with an extensive allegory of "lawn trolls" that arrive in a community and convince all of the neighbors to negotiate over the right to enjoy the view of each other's lawns. At the end of the story, the neighborhood has suffered costly and distracting negotiations, as well as significant transaction costs, while "the troll gets rich for its foresight, wisdom, and creation of the market." The venture capitalist concluded that the moral of the story is that, "lawn trolls . . . do not really want fair compensation for lawn use. What they really want is to tax every lawn."

Finally, ***one venture capitalist summed up the impact for venture-backed companies succinctly by noting that when companies spend money trying to protect their intellectual property position, they are not expanding; and when***

companies spend time thinking about patent demands, they are not inventing.

Is Patent Assertion Helpful or Harmful for the Venture-Backed Community?

A key goal of the study was to test the venture-backed community's own views of whether patent assertion in their field is helpful or harmful. Some have suggested that patent assertion is helpful for startups because unsuccessful companies can sell their patents to a monetizer if the company fails. In particular, in listing potential positive aspects of patent assertion entities, government officials have suggested that patent assertion entities, "can make it easier for a failed start-up to monetize its patents, providing some insurance for venture capitalists."[72]

The study tested whether the venture-backed community itself sees patent demands as a positive. The study also examined how patent demands factors into venture capitalists' decisions of whether to invest in a particular startup company. Thus, following the questions for venture capitalists and portfolio companies about their experiences with patent demands, the survey asked a series of viewpoint questions. Respondents who had answered at the start of the survey that they had not received patent demands were routed directly to this last set of questions.

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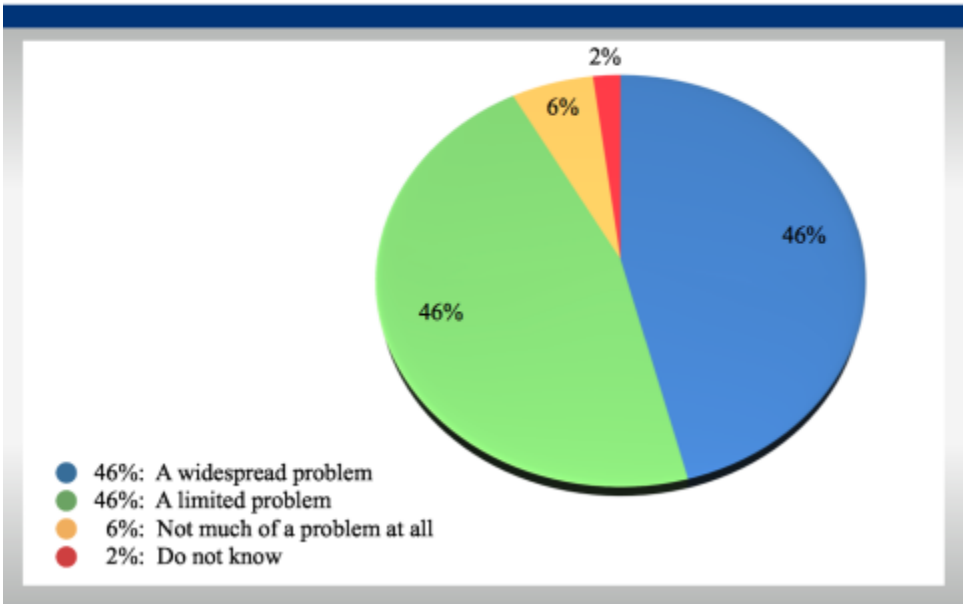
[72] *See* Federal Trade Commission Chairwoman Edith Ramirez, Opening Remarks, Computer Law & Patent Assertion Entities: What Antitrust Enforcers Can Do, (June 30, 2013), *available at* http://www.ftc.gov/speeches/ramirez/130620paespeech.pdf. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1337166 In Chien's work, only 5% of startup companies responded that they have monetized their patents, with some of those explaining that they had either sold the patents along with a product line, sold unused patents, or licensed their patents. *See* Chien, *supra* note 65, at 17. She points out that many startups do not bother to obtain patents, particularly in the software industry, and notes, in addition, that companies may be embarrassed to acknowledge monetizing patents. *See id.* at 17-18.

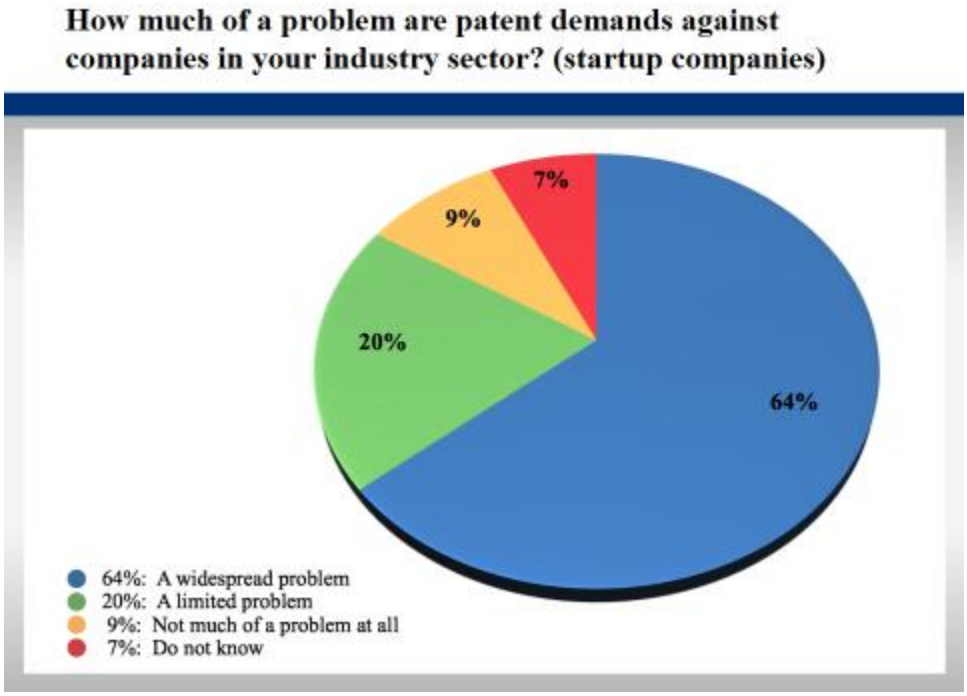
The survey asked venture capitalists, "how much of a problem are patent demands against venture-backed portfolio companies." Only 6% responded that patent demands are not much of a problem at all for venture-backed companies. ***92% of the venture capitalists responded that patent demands are a problem for venture-backed companies, with 46% considering patent demands a widespread problem and 46% considering patent demands a limited problem.***

How much of a problem are patent demands against venture backed portfolio companies? (venture capitalists)

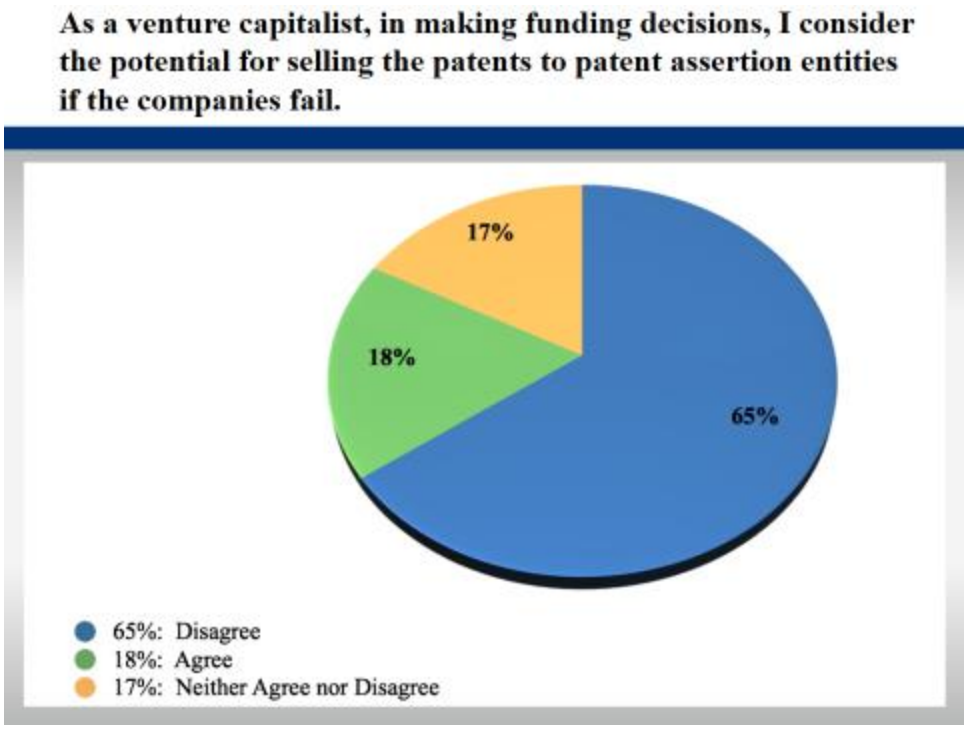


Interestingly, portfolio companies believe even more strongly that patent demands are a widespread problem. Using a variant of the venture capitalist question, portfolio companies were asked, "how much of a problem are patent demands against companies in your industry sector." ***64% of portfolio companies responded that patent demands are a widespread problem in their sector, with another 20% responding that patent demands are a limited problem.*** Only 9% of

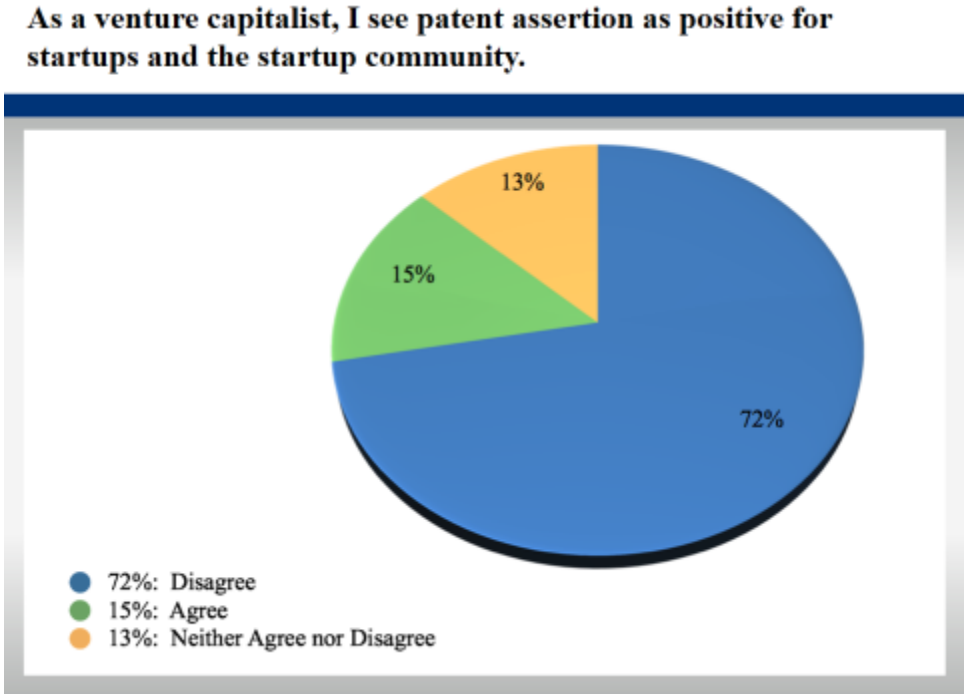
portfolio companies responded that patent demands are not much of a problem at all.



Perhaps one of the most telling set of responses, however, came from asking the venture capitalists how patent demands play into their funding decisions. ***65% of the venture capitalists disagreed with the statement, "[a]s a venture capitalist, in making funding decisions, I consider the potential for selling patents to patent assertion entities if the companies fail."*** Only 18% agreed. The largest group of responses came from those who not only disagreed, but disagreed strongly—constituting 41% of respondents.



Similarly, ***when the venture capitalists were asked whether they see "patent assertion as positive for startups and the startup community," 72% either disagreed or disagreed strongly.*** Again, the largest group of responses came from those who disagreed strongly—constituting 50% in this case.



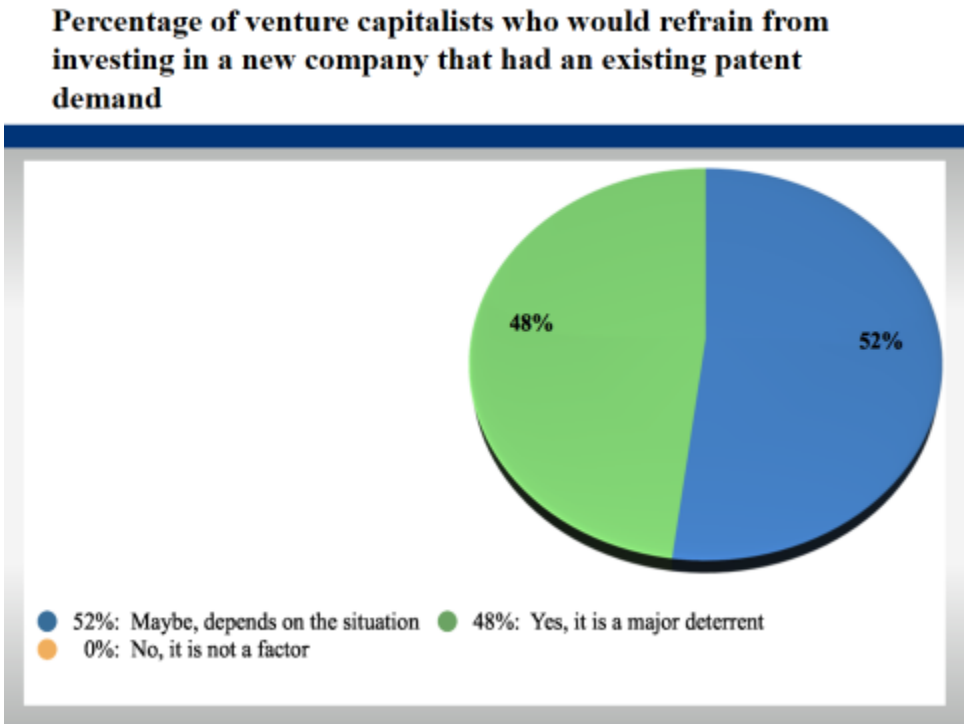
These results are consistent with comments I heard from venture capitalists as I was designing the survey. ***As one venture capitalist noted, "VCs swing for the fences; they are not interested in pennies on the dollar."***

These results are also consistent with Chien's findings in her interviews of venture capitalists. 78% of the venture capitalists disagreed that the ability of companies to monetize their patents through "NPEs/'Trolls'" helped innovation, and 83% agreed that NPEs/Trolls are hurting innovation.[73]

The most striking results, however, came in response to the question of whether the venture capitalists would "refrain from investing in a new company that had an existing patent demand." Not a single respondent chose the answer, "no, it is not a factor." ***Rather, 100% of venture capitalists indicated that if a company had an existing patent demand against it, it could potentially be a major***

[73] *See* Chien, Open Technology Institute White Paper, *supra* note 10, at 21.

deterrent in deciding whether to invest. Roughly half indicated that it would be a major deterrent on its face, and the other half indicated that it could be a major deterrent, depending on the circumstances.



In short, the venture-backed company community overwhelmingly views patent demands as a negative for their industry, does not think about the potential for reselling patents when deciding whether to invest in a company, and would pause before investing in a company that had an existing patent demand against it. Thus, the notion that patent assertion is helpful for the venture capital community is contradicted by the community itself in this study.

Conclusion

The results of surveying 200 venture capitalists and their portfolio companies provide strong indications of the impact that patent demands are having

on the venture-backed community. Both the companies and the venture capitalists, overwhelming believe that patent demands have a negative impact on the venture-backed community, with all or most of those assertions coming from entities whose core activity involves licensing or litigating patents. These impacts are described in terms of the specific costs expended by the companies and by the distraction to management, engineers, and other employees. Most important, participants described the human toll that patent demands have had on entrepreneurs. In addition, when making funding decisions, the vast majority of venture capitalists do not consider the potential for selling to assertion entities if the company fails. On the flip side, 100% of venture capitalists indicated that if a company had an existing patent demand against it, it could potentially be a major deterrent in deciding whether to invest.

Finally, one venture capitalist provided an excellent summary of the impact of patent demands on venture-backed companies. When companies spend money trying to protect their intellectual property position, they are not expanding; and when companies spend time thinking about patent demands, they are not inventing.

Appendix A

10. Location of Company Headquarters for Portfolio Company Respondents

#	Answer			%
1	Alabama			1%
2	Alaska			0%
3	Arizona			0%
4	Arkansas			0%
5	California (No.)			30%
6	California (So.)			2%
7	Colorado			7%
8	Connecticut			0%
9	Delaware			3%

10	District of Columbia		0%
11	Florida		0%
12	Georgia		0%
13	Hawaii		1%
14	Idaho		1%
15	Illinois		13%
16	Indiana		0%
17	Iowa		1%
18	Kansas		0%
19	Kentucky		0%
20	Louisiana		0%

21	Maine			0%
22	Maryland			3%
23	Massachusetts			11%
24	Michigan			1%
25	Minnesota			1%
26	Mississippi			0%
27	Missouri			0%
28	Montana			0%
29	Nebraska			0%
30	Nevada			0%
31	New Hampshire			0%

32	New Jersey		1%
33	New Mexico		0%
34	New York		7%
35	North Carolina		1%
36	North Dakota		0%
37	Ohio		0%
38	Oklahoma		0%
39	Oregon		1%
40	Pennsylvania		1%
41	Rhode Island		0%
42	South Carolina		0%

43	South Dakota			0%
44	Tennessee			0%
45	Texas			7%
46	Utah			0%
47	Vermont			0%
48	Virginia			2%
49	Washington			2%
50	West Virginia			0%
51	Wisconsin			4%
52	Wyoming			0%
	Total		15	100%

Intellectual Property Wrongs

Robin Feldman*

*Professor of Law and Director of the Institute for Innovation Law, UC Hastings Law. I am deeply indebted to N. Mark Lam who inspired the title of this article. I also wish to thank Michael Callahan, Tom Ewing, Genevieve Halpenny, Jenna Kelleher, Sara Jeruss, Zion Maffeo, Yi Wilkinson, JB Schiller, Ryan Witthans, Jacob Zweig, and participants in the Stanford Program in Law, Science & Technology and the Yale Information Society Project. I am grateful beyond measure to Linda Weir for her research assistance and insights.

I. Introduction

Intellectual property has become a pervasive presence in society. Seeping into every nook and cranny of American life, intellectual property casts a protective haze over everything from the words of an email,[1] to the shape of a phone,[2] to the sequence of genes[3]. In our jurisprudential tradition, these rights do not spring forth from some notion of a natural or moral entitlement. Rather, the underlying logic is decidedly utilitarian.[4] From the store of things that are theoretically available to anyone in society, we remove certain activity and expression, dedicating them to the province of one or a few in the hope of bringing benefit to society as a whole. These benefits include such diverse goals as promoting innovation,[5] stimulating creativity in the arts,[6] encouraging the production of quality goods,[7] and maintaining an appropriately functioning marketplace.[8]

Nevertheless, intellectual property rights increasingly are being pressed into the service of schemes that have little to do with the advancement of these societal

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[1] Copyright law covers original expression fixed in a tangible medium of expression, which would include the humble email (JULIEN HOFMAN, INTRODUCING COPYRIGHT xi, 164 (2009), *available at* http://www.col.org/resources/publications/Pages/detail.aspx?PID=312; Ned Snow, *A Copyright Conundrum: Protecting Email Privacy*, 55 U. KAN. L. REV. 501, 503 (2007)), as much as the letter and manuscripts of past generations.

[2] *See Apple, Inc. v. Samsung Elecs. Co.*, 678 F.3d 1314 (Fed. Cir. 2012).

[3] *Ass'n for Molecular Pathology v. U.S. Patent and Trademark Office*, 653 F.3d 1329, 1334 (2011).

[4] There are occasional exceptions to the general rule that intellectual property rights in the United States are grounded in utilitarianism. The United States adheres to several multinational treaties that refer to moral rights in the context of copyright and performing rights for singers and actors, including the Berne Convention, the WIPO Copyright Treaty, and the WIPO Performances and Phonograms Treaty. *See* Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, as revised at Stockholm on July 14, 1967, 828 U.N.T.S. 222; World Intellectual Property Organization Copyright Treaty, Dec. 20, 1996, S. Treaty Doc. No. 105– 17, 2186 U.N.T.S. 121; World Intellectual Property Organization Performances and Phonograms Treaty, Dec. 20, 1996, S. Treaty Doc. No. 105– 17, 2186 U.N.T.S. 203.

[5] U.S. CONST. art. I, § 8, cl. 8.; *Brenner v. Manson*, 383 U.S. 519, 532-536 (1966); *Ariad Pharms. Inc. v. Eli Lilly & Co.*, 598 F.3d 1353 (Fed. Cir. 2010) (en banc); *see also PharmaStem Therapeutics Inc. v. Viacell Inc.*, 491 F.3d 1363–1364 (Fed. Cir.2007); WILLIAM C. ROBINSON, LAW OF PATENTS FOR USEFUL INVENTIONS, 101 n.2 (1890)

[6] E-mail from Hal Wegner (Feb. 2, 2009, 8:53 PST) (on file with author); *see also Kinetic Concepts Inc. v. Blue Sky Med. Grp.*, 554 F.3d 1010 (Fed. Cir.2009).

[7] *See* Frank H. Alpert, *An Analysis of Patent Length: Encouraging Innovation by Shortening Patent Protection*, 11 J. MACROMARKETING 42 (1991) (providing examples of brands that have become synonymous with their class of product), but note that other goals are involved, primarily consumer deception, and in more modern interpretations, protecting investment in one's good name. *See, e.g.*, Gideon Parchomovsky & Peter Siegelman, *Towards an Integrated Theory of Intellectual Property*, 88 VA. L. REV. 1455 (2002).

[8] *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481-82 (1974).

goals and much to do with societal waste. As one former regulator noted, the locus of creative thought, all too often, has shifted from the R&D department to the legal department.[9]

What do we, as a society, do when these rights that we have created with such lofty goals and noble heart are diverted toward less admirable pursuits, that is, when IP rights become the vehicles for IP wrongs? Under these circumstances, the legal system must develop a way to respond.

In modern society, intellectual property rights are being used for purposes such as hiding embarrassing or illegal conduct, avoiding obligations, pressuring others into surrendering rights, harassing competitors, and engaging in complex anti-competitive schemes. This article will describe these and many other types of questionable behavior that are increasingly appearing in the assertion of both patents and copyrights.

Such behavior is happening because attributes of the intellectual property system are allowing intellectual property rights holders to bargain for compensation far beyond the value of the right. I call this a "magnification" of the rights—although one colleague has complained that terms such as magnification are far too tepid to describe the aggressive and unsavory behavior that is taking place. The phenomenon is playing out in ways that damage innovation, create dysfunction in markets and waste vast amounts of legal resources. As federal district court judge James Roberts recently noted in frustration, "[T]he court is well aware that it is being played as a pawn."[10]

The problems go far beyond the massive patent wars in the smartphone industry that are making headlines. Although the smartphone wars are certainly wasteful and troubling, they are the tip of the iceberg, an example in which the parties are so big and the stakes so high that the activities are spilling over into the public square and attracting attention. Smartphone patent wars, however, are merely a symptom of what is happening on many levels in the world of intellectual property.

Consider the law firm that purchased copyrights in pornographic movies, used simple tracking tools to find people who have downloaded the movies, and then sent letters demanding a licensing fee. Unsurprisingly, many people chose to

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[9] Dr. Donald Kennedy, Comm'r, U.S. Food & Drug Admin., Keynote Address at the UC Hastings Conference: Faces of Forensics (Mar. 2008).

[10] *See* Jeff John Roberts, *Famous judge spikes Apple-Google case, calls patent system "dysfunctional"*, GIGAOM (Jun. 8 2012), http://gigaom.com/2012/06/08/famous-judge-spikes-apple-google-case-calls-patent-system-dysfunctional/(discussing Apple, Inc. v. Motorola, Inc., No. 1:11-CV-08540, 2012 WL 2362630, at *1 (N.D. Ill. E. Div. Jun. 7, 2012)).

immediately pay $1,000, rather than risk having their name exposed in a lawsuit about pornographic films.[11]

Or consider the patent holders who are sending demand letters directly to small companies stating that the companies cannot "use" common office equipment they have purchased without paying a licensing fee. By targeting consumers, rather than the office equipment makers themselves, these patent holders are able to approach people who have little information about patents and little ability or incentive to do anything but pay.

Or consider patent holders who have refused to identify which patent claims they were asserting against a target company unless the target signed a broad nondisclosure agreement, or other patent holders who have purportedly required the target to sign, not just a nondisclosure agreement, but also a non-disparagement agreement. Interactions such as these raise a host of concerns, including implications for freedom of speech, for the notion that patents should provide notice of the territory claimed by the patent holder, and for the ability of competition authorities to identify anticompetitive behavior. This article describes these and many other examples of the troubling behaviors that are spreading throughout intellectual property markets.

As the marketplace for ideas has developed in strange and uncomfortable ways, the law must adapt as well. We need a mechanism for restraining inappropriate use of intellectual property and for signaling the difference between the acceptable pursuit of a return from your intellectual property and the inappropriate oppression of others, using the legal system and societally granted privileges as a weapon.

The law does have a few anemic doctrines to call upon. Within intellectual property, these include patent misuse, copyright misuse, and inequitable conduct. The first two are rarely used with any success. The third, after a troubled history, has been all but laid to rest in the recent patent reform legislation.[12] It is no surprise that

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[11] *See* Kate Darling, What Drives IP Without IP? A Study of the Online Adult Entertainment Industry 24-25 (February 2013) (working paper), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2198934; *see also Malibu Media, LLC v. John Does 1-10*, No: 12CV3623(ODW), 2012 WL 5382304 (C.D. Cal. Jun. 27, 2012) ("[T]he potential for abuse is very high. The infringed work is a pornographic film. To save himself from embarrassment, even if he is not the infringer, the subscriber will very likely pay the settlement price. And if the subscriber is a business, it will likely pay the settlement to save itself from the hassle and cost of complying with discovery—even though one of its customers or employees is the actual infringer.").

[12] 35 U.S.C. § 257(c)(1) (2012); Anthony W. Shaw, Inequitable Conduct, Willfulness, and Inducement under the AIA, LEXISNEXIS PATENT LAW COMMUNITY, (*available at* http://www.lexisnexis.com/community/patentlaw/blogs/patentlegislationandreform/archive/2012/01/02/inequitable-conduct-willfulness-and-inducement-under-the-aia.aspx) (commentary on the America Invents Act regarding the changes related to inequitable conduct). S*ee*

these approaches provide little assistance. They are seriously flawed doctrines that lack the robustness necessary for the task at hand.

One could turn to doctrines outside of intellectual property, including laches, implied contract, sham litigation and antitrust. Antitrust in particular has been used across time to challenge anticompetitive schemes involving intellectual property.[13] Some of these doctrines could provide avenues to address particular aspects of the conduct, particularly if the doctrines were modified to take into account modern intellectual property practices. None of these doctrines, however, has the capacity to address the full breadth of the problems. When a comprehensive problem exists, the answer lies in attacking its roots, in addition to trimming the tendrils as they emerge in various places.

A logical step in the evolution of intellectual property law would be the development of a concept of "inappropriate use of intellectual property." This article will sketch out the contours of what such a doctrine should contain.

Describing the theoretical framework that needs to emerge, to some extent, harkens back to the emergence of the Court of Chancery in fourteenth and fifteenth century England and the development of the concept of equity. It is always treacherous to analogize anything to equity, given its lack of a coherent, defining identity. (As F.W. Maitland noted, equity is that portion of our existing substantive law that can be marked off from other portions of law only by reference to courts no longer in existence, which is a poor thing to call a definition.)[14] Nor would one necessarily want to follow an area of law that has been accused, on the one hand, of making possible "decisions that are flexible, intuitive, and tailored" while on the other hand, making possible "decisions that are unanalyzed, unexplained and un-thoughtful."[15] Nevertheless, British courts of equity emerged in part because law courts were not

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also Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276 (Fed. Cir. 2011); Robin Feldman, *The Role of the Subconscious in Intellectual Property Law*, 2 HASTINGS SCI. & TECH. L.J. 1, 14-23 (2010) (reviewing the perils of strict liability attached to a finding of inequitable conduct, increasing abuse of the doctrine, and a lack of clear standards upon which inequitable conduct has been found); Christian E. Mammen, *Controlling the "Plague": Reforming the Doctrine of Inequitable Conduct*, 24 BERKELEY TECH. L.J. 1331 (2009) (reviewing excessive allegation of inequitable conduct and suggesting: (1) adoption of the PTO's 1992 definition of materiality, (2) standardization of the definition of "intent," (3) codification of "balancing" materiality and intent, and (4) limiting remedy to invalidation of the claims found to have been approved through inequitable conduct).

[13] *See, e.g.*, *United States v. Microsoft Corp.*, 253 F.3d 34, 50 (D.C. Cir. 2001); *United States v. Apple, Inc.*, No. 12-CV-2826 (S.D.N.Y. filed Apr. 11, 2012).

[14] F.W. MAITLAND, THE ORIGIN OF EQUITY IN EQUITY: A COURSE OF LECTURES, 1 (Cambridge 1936).

[15] DAN R. DOBBS, 1 DOBBS LAW OF REMEDIES: DAMAGES—EQUITY—RESTITUTION 92 (West 2d ed. 1973).

allowed to see the full view of what was transpiring between the parties and because the system lacked sufficient remedial mechanisms.[16] Modern problems in intellectual property echo both of these.

In examining the boundaries of what is and is not appropriate in the use of intellectual property, one ought to be inspired by the recent decision of renowned jurist Richard Posner, who was presiding over a massive intellectual property battle between Apple and Google. In describing his ruling from the bench, Judge Posner called arguments on one side "silly" and arguments on the other side "ridiculous." Ultimately, he dismissed the case entirely on the grounds that neither party would be able to demonstrate true harm.[17] There is no reason to mince words in this area. Intellectual property owners are using legal entitlements and the legal system in ways in which the true harm is suffered by the courts and society as a whole. We can do better, and this article is intended to offer a step in that direction.

Part I of the Article describes the phenomenon of magnification, and Part II details examples of troubling schemes in modern intellectual property markets. Many of these schemes have not been described previously in academic literature, and some have not been described anywhere. Part III explains current legal tools, demonstrating their inadequacies. Part IV discusses the initial contours of the doctrine of inappropriate use of intellectual property and explores examples of how it could be applied. To support development of that doctrine, as well as to explore potential structural changes in the intellectual property system, Part V turns to the broad investigatory powers of the Federal Trade Commission under Section 6(b). This section describes why the Commission should initiate such an investigation and suggests ways in which such an investigation might be structured.

Before moving further, I do wish to note two caveats. First, although examples of inappropriate use of intellectual property are more prevalent in certain areas of intellectual property, the doctrine is intended to cover all types of IP--copyright, patent, trademark and trade secret. Although scholarship tends to treat trademark and trade secret as poor stepsisters, we do so at our own peril.[18] As described below, fluidity among these various regimes provides ample opportunities for mischief and suggests that all forms should be handled in a single, over-arching doctrine, subject to the variations each area may require.

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[16] For a history of the law of equity, *see* MAITLAND, *supra* note 14; J.H. BAKER, THE COMMON LAW TRADITION: LAWYERS, BOOKS, AND THE LAW (Hambledon 2000).

[17] *See supra* note 10.

[18] Charles T.Graves, *Non-Competition Covenant as a Category of Intellectual Property Regulation*, 3 HASTINGS SCI. & TECH. L.J. 69, 74 (2011) (noting that "in the minds of courts, practitioners, academics and law students, the term 'IP' chiefly means patent and copyright law, with trademark and trade secret law in the background").

Finally, I worry that in chronicling existing and potential bad behaviors in an area that already looks much like the Wild West, I am providing a handy road map for those who wish to follow. If the legal system does not respond quickly, the article might do no more than encourage others to enter the fray, as well as providing instructions. I am hopeful that the importance of recognizing and responding to these behaviors outweighs the risk.

II. Magnification and Other Characteristics of the Modern Intellectual Property Arena

A confluence of factors in intellectual property law is creating unprecedented opportunities for mischief. To begin with, characteristics of intellectual property markets are allowing rights holders to bargain for returns well beyond the value of the rights they hold. In addition, certain intellectual property markets are experiencing a shift to monetization, in which rights that would ordinarily have garnered no return are being reconstituted and monetized. The combination of magnification and monetization is creating opportunities for behavior that is harming innovation, creating dysfunction in markets and wasting vast amounts of resources. This section will describe such issues in the context of patent and copyright. Later sections will discuss fluidity among the four intellectual property regimes.

A. Magnification

In the classic story of invention, a great thinker toils to create a wonderful innovation, files for a patent to protect what he or she has contributed to the store of human knowledge, and then produces a new product that enters the market, improving the lives of all citizens. In a variation on this theme, the valiant inventor, deeply immersed in the pursuit of innovation, lacks the capital, experience or interest to commercialize the invention. The inventor then simply licenses the patent to a third party, who brings forth the product for the betterment of society. Copyright tells a similar tale that features brilliant writers hunched over coffeehouse tables, or dedicated computer programmers toiling late into the night, accompanied only by caffeine and their dreams.

It is a lovely story, but one that bears little resemblance to the path of patents and copyrights in the modern world. Modern patent and copyright systems are characterized by extensive bargaining, as parties circle each other looking for advantages

in a complex game of multi-dimensional chess.[19] For different reasons, both systems are plagued by the following factors: 1) uncertainty regarding the boundaries of rights; 2) lack of a quick and reasonably priced method for resolving disputes regarding the boundaries of the rights; and 3) potential damages that are out of proportion to the nature of the harm. These factors allow rights holders to bargain for returns far beyond the value of those rights. In addition, both systems have operated for some time with an extraordinary number of rights that are never actualized. Although the existence of such rights may clog the systems in some ways, those rights have remained largely silent--unasserted and bringing no direct returns to their owners. One can call these ghost rights or shadow rights, given that they have hovered on the periphery of the patent and copyright systems, never fully actualized or fleshed out. The copyright and patent systems are changing dramatically, however, as clever minds have created new ways for these shadow rights to be monetized. This monetization trend is further enhancing opportunities for magnification of the value of rights.

Before moving any further one should address the question of how it is conceptually possible for someone to obtain more for something than what it is worth. After all, isn't the value of something measured by whatever the owner can get in return for it? How are we to measure value in a rational manner?

Although differing definitions are possible, I suggest using the following as a starting place.[20] Intellectual property consists of things that are intangible, such as methods, secrets and songs. Their value is best actualized when the intangible is translated into tangible products that can be sold to consumers, anything from medications to CDs. From that perspective, the value of intellectual property can be measured by the value of the tangible product that embodies it. If the product embodies things beyond that particular intellectual property, the value can be measured by the intellectual property's contribution to the value of the tangible product.

This describes, of course, the value of an individual intellectual property right in an ideal world, and circumstances in the real world are never ideal. Measurement difficulties, information imbalances, transaction costs and other factors may cause the level of return to deviate from the actual value of the intellectual property. In addition, the design of the legal system itself, intentionally or unintentionally, may alter the returns available to the rights holder, above and beyond the value of the

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[19] For a description of patents in the modern world, see ROBIN FELDMAN, RETHINKING PATENT LAW, Chapter 2: How Modern Patents Operate (2012).

[20] *See* Raymond Shih Ray Ku et al., *Does Copyright Law Promote Creativity? An Empirical Analysis of Copyright's Bounty*, 62 VAND. L. REV. 1669, 1670 (2009); David S. Abrams, *Did Trips Spur Innovation? An Analysis of Patent Duration and Incentives to Innovate*, 157 U. PA. L. REV. 1613 (2009).

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right's contribution to the value of the products encompassing it. As a simple example, a system may provide for punitive damages or other damage measurements that intentionally amplify the available returns. Rationally designed, such deviations may be unproblematic and may follow the types of conscious tradeoffs that are necessary within any legal structure. It is the unanticipated leakage or the inadequately structured design that may be problematic.

In short, intellectual property rights holders may be able to utilize aspects of the patent system to extract a greater return than the value of the right. This phenomenon is happening extensively in both the patent system and the copyright system.

B. How Magnification Arises in Patents

Although we refer to patents as a form of intellectual "property," patents are quite different from traditional forms of property such as real estate. A patent is not a physical object, but a verbal description of something that may not even exist in tangible form. As a result, it can be very difficult to say exactly what is included within the boundaries of a given patent, especially as time passes and technology develops.[21] In fact, as I have described extensively in other work,[22] it is simply impossible to know the full boundaries of a patent at the time the patent is granted.

The sheer volume of modern patents adds to the challenge. The patent system allows patents to be overlapping, and the millions of patents active in the United States makes determining the boundaries of each one impossible. Moreover, the massive number of patent application filed each year in comparison to the number of patent examiners ensures that examiners will spend very little time on each application, leaving the litigation system to weed out patents as they become commercially significant.

The patent system also lacks a quick and inexpensive way to resolve the uncertainty about the boundaries of a particular patent. Scholars estimate that the average patent trial lasts from nine to fifteen months and costs from one to six million dollars.[23] The intangible costs of patent litigation may be as great as the dollar

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[21] *See* Robin Feldman, Op-Ed., *To Liberate American Innovation, We Need to Rethink Patents*, BOSTON GLOBE, Jan. 20, 2013.

[22] I will describe only a few points in the text and refer readers to prior work for a full description of the problem. FELDMAN, *supra* note 19, ch. 1 (describing the theory of the bargain aspect of patents); *see also* Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, 19-20 (2012), *available at* http://stlr.stanford.edu/pdf/feldman-giants-among-us.pdf (describing how uncertainty promotes leverage in patent aggregation).

[23] Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1605 (2009); American Intellectual Property

amounts, particularly for a young company. Patent litigation can distract management, as well as scaring off customers, investors, and suppliers.[24]

In addition to the problems of uncertainty and the costs of resolving that uncertainty, the remedy system in patents can create a distortion between a patent's value and the return that a patent holder can gain. With a finding of infringement, a patent holder can receive an injunction against the infringer, and until the recent Supreme Court opinion in eBay v. MercExchange, injunctions were routinely granted.[25] Although the pace of injunctions has slowed in the wake of eBay, courts still grant injunctions in a significant number of cases.[26]Thus, when a company producing an actual product is threatened with an infringement claim by a patent holder, the company must decide whether to risk having its entire product shut down. If the patent claim relates only to a small aspect of the product, the threat of injunction creates an inordinate risk, one much more costly than the value that the patent could possibly contribute to the whole product.

Moreover, the damage measurements available in patent cases significantly heighten the risk of magnification. According to the Patent Act, courts are to award damages "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention."[27] The language is perfectly reasonable in the abstract; it is the application of the language that has been problematic.

Law Association Report of the Economic Survey 2011, reprinted in American Intellectual Property Law Association Report of the Economic Survey, Intellectual Property Insurance Services Corporation, http://www.patentinsurance.com/iprisk/aipla-survey/ (last visited Nov 1, 2012). The average patent trial involving a monetizer lasts about nine months, while the average patent trial in other circumstances lasts about 15 months.Chien, *supra*, at 1605, tbl. 6. For smaller cases where the amount in controversy is under $1 million, the average trial itself costs almost a million dollars. *Id.* at 1592-93. For larger cases where the amount in controversy is greater than $25 million, the average trial costs almost $6 million. *Id.* at 1584; *see also* James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes* 29 tbl. 2 (Boston Univ. Law & Economics Research Paper No. 12-34, 2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2091210.

[24] Tom Ewing, *Indirect Exploitation of Intellectual Property Rights by Corporations and Investors*, 4 HASTINGS SCI. & TECH. L.J. 1, 34, 63 (2012) [hereinafter Ewing, *Indirect Exploitation*]; Tom Ewing, *Practical Considerations in the Indirect Deployment of Intellectual Property Rights by Corporations and Investors*, 4 HASTINGS SCI. & TECH. L.J. 109, 119, 131 (2012) [hereinafter Ewing, *Practical Considerations*].

[25] *eBay Inc. v. MercExchange, LLC*, 547 U.S. § 388 (2006).

[26] Douglas Ellis et al., *The Economic Implications (and Uncertainties) of Obtaining Permanent Injunctive Relief After*eBay v. MercExchange, 17 FED. CIRCUIT B.J. 437, 441 (2008). Since June 2006 to 2008 thirty-six patent cases where heard in district courts where a permanent injunction was being sought. Of those thirty-six, an injunction was granted twenty eight times and the rest (eight) were denied.

[27] 35 U.S.C. § 284 (2006).

Part of the problem flows from the so-called "Georgia-Pacific" test that many courts use to determine reasonable royalties. It is an elaborate, 15-part test introduced by a district court in the 1970s, in which not all factors are relevant to all cases and courts do not always use the same factors.[28] With such variability, the test has been described as involving more the talents of a conjuror than that of a judge.[29]

The test is particularly troubling in the way that it has been applied to complex multipart products.[30] When a product is made up of many components, the price of the product may reflect not just one patented process or component, but also dozens of other patented inventions. The price may also reflect unpatented technology included in the product, as well as the value added by the manufacturer in putting everything together and marketing the product. The Georgia-Pacific test does not adequately take all of this into account,[31] and patented inventions that make a small contribution to an overall product have received damage awards well beyond their contribution to the whole, or based on a distorted view of the whole.

For example, in Alcatel-Lucent SA v. Microsoft,[32] a jury found that Microsoft's Media Player, which is a small part of Microsoft's Windows system, violated two patents related to the MP3 digital-music format. The jury awarded an astounding $1.52 billion in damages. In reaching this enormous award, the royalty base was calculated on the full value of Windows-based computers, rather than on the much lower value of Windows software.[33]

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[28] *See* Georgia-Pac. Corp. v. U.S. Plywood Corp., 318 F. Supp. § 1120 (S.D.N.Y. 1970), modified sub nom. Georgia-Pac. Corp. v. U.S. Plywood-Champion Papers Inc., 446 F. 2d 295 (2d Cir. 1971).

[29] *See* Fromson v. Western Litho Plate & Supply Co., 853 F.2d 1574 (Fed.Cir. 1988) (describing a practioner's comment).

[30] For a detailed description of patent remedies, problems with those remedies and issues discussed in this section, see FELDMAN, *supra* note 19, at 85-90; *see also* Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 WM. & MARY L. REV. 655 (2009); Mark A Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEXAS L. REV. 1991 (2007).

[31] For an example of the ability to garner a return on unpatented parts of a product through the patent, see Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1551 (Fed. Cir. 1995) (describing the entire market value rule to include recovery on sales of unpatented components with patented components when the unpatented components function together with the patented components in a manner so as to produce a single desired end product or result).

[32] Lucent Technologies, Inc. v. Gateway, Inc., 509 F. Supp. 2d 912 (2007) (granting Microsoft's motion for judgment as a matter of law on the damages award for insufficient evidence to establish the correct royalty base), *aff'd*, 543 F.3d 710 (2008) (affirming judgment as a matter of law due to lack of standing to sue over one patent and non-infringement on the second patent, which obviated the need to decide damages issues).

[33] Efforts may be underway to ameliorate some aspects of this problem.*See* Apple, Inc. v. Samsung Elecs. Co. Ltd, 678 F.3d 1314 (Fed. Cir. 2012) (holding that there must be a showing of a causal nexus between likely infringement and the alleged harm to a patentee in order for a patentee to establish irreparable harm and collect infringement damages).

Although the court ordered a new trial over damages in Alcatel-Lucent, the jury verdict in the case is not the only mammoth award that has been handed down. The threat of such massive awards affects the risk calculations a company must make in choosing whether to fight the assertion of a patent. Once again, it gives patent holders the ability to bargain for more than the patent's actual value. Patent holders can posture by demanding exorbitant licensing rates in demand letters or damage awards in lawsuits because the risk of such awards is real.

I have wondered whether one could impose some measure of discipline on the system by requiring that damage award disputes be resolved through baseball style arbitration. In that system, the parties each enter a number, and the trier of fact may choose only one of the two numbers offered, not some number in between.[34]As a result, parties have less incentive to enter a ridiculous number, given the risk that the trier of fact will ignore it and choose what one's opponent has proposed.[35] Under the current system, however, the damage calculations encourage parties to inflate their demands.

The combination of uncertainty regarding the boundaries of rights, the lack of a quick and inexpensive method for resolving that uncertainty, and the possibility that damages awarded may be out of proportion to the nature of the harm combine to make the modern patent system a complex and multi-dimensional strategy game. I have described this game at length in Rethinking Patent Law, and will include only a brief discussion here.[36]

The problem in simplified form is the following: when a patent holder knocks on the door, a rational company may choose to settle, rather than to face the risks and costs of defending against a patent infringement suit. This is true even if the threatened patent is of questionable validity or does not apply to the product the company is making. In anticipation of this, companies try to build up their own port-

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[34] *See, e.g.*, JERRY CUSTIS, LITIGATION MANAGEMENT HANDBOOK § 9:18 (2012); Matt Mullarkey, *For the Love of the Game: A Historical Analysis and Defense of Final Offer Arbitration in Major League Baseball*, 9 VA. SPORTS & ENT. L.J. 234, 238 (2010).

[35] *See* John E. Sands, *Baseball Arbitration and the 'Engineering' of Effective Conflict Management*, 13 DISP. RESOL. MAG. 10, 11 (2007) ("Because the players and clubs know the contractual criteria and know the relevant data for their specific cases, they must design their submitted demands and offers to meet what they believe the arbitration panels will find consistent with those criteria. Although their initial positions may be far apart, as hearing dates approach, players and clubs necessarily move those positions into an appropriate range that they believe an arbitration panel will likely award."). *But see* Mullarkey, *supra* note 34, at 239 ("The lack of compromise created by the arbitration systems encourages the players and owners to submit increasingly unreasonable proposals knowing that the arbitration panel cannot compromise but rather must choose one of the two options.").

[36] For a detailed description of how modern patents operate, see FELDMAN, *supra* note 19, at ch. 3.

folio of patents. If the person trying to assert a patent against you is a competitor who wants to keep you out of its territory, you can reach into your portfolio and threaten to counter-sue. Your counter-attack places the patent holder's own products at risk.

Groups that have large portfolios can be at a greater advantage in the game, in some circumstances.[37] Suppose I knock on your door with a weak patent, asking that you buy a license from me, or that you shift your product away from what I claim to control. Now suppose I tell you that I have 500 more patents. Even if you are tempted to fight the first weak patent, the risks and costs of trying to defend against each of 500 patents makes it much more likely that you will capitulate. The value of the first patent, as well as many of the 500, may be quite low, and the patents may be unlikely to withstand close scrutiny in court. Nevertheless, the patent holder can reap a substantial return from these patents, particularly if a few stronger patents are sprinkled throughout.

In the modern world of patent assertion entities have developed a variety of complex ways to enhance magnification, such as a technique that I would call unbundling. With unbundling, an entity takes a group of related patents, separates them out, and transfers different ones to different monetizers. As a result, a product company must face multiple demands from different assertion entities. This multiplies the amount of cost and risk for the product company, thereby magnifying the return. In other words, if I have to fight 10 lawsuits, it will cost me more, and the settlement value rises

Unbundling allows the entity that originally divided the group to magnify its return, either by retaining rights to a share of the profits or simply by virtue of the fact that the sale price of each decoupled patent reflects its settlement value.[38] The bargaining and maneuvering described above offers only a small taste of the complex interactions of the modern patent world.[39]

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[37] *See, e.g.*, James F. Holderman & Halley Guren, *The Patent Litigation Predicament in the United States*, 2007 U. ILL. J.L. TECH. & POL'Y 1, 10-11 (2007); Douglas G. Lichtman & Mark A. Lemley, *Presumption of Validity*, 60 STAN. L. REV. 45, 46 (2007); Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 66 (2005).

[38] Unbundling can be particularly effective as part of a scheme, in which a product company transfers some of its patents to monetization entities to assert against the product company's competitors, thereby raising their rivals' costs. For a further discussion of privateering, see sources cited at note 80, *infra.*

[39] For an example of unbundling, see David A. Balto, *Guest Post on Using the Antitrust Laws to Police Patent Privateering,* PATENTLY-O (June 3, 2013) (*available at http://www.patentlyo.com/patent/2013/06/guest-post-on-using-the-antitrust-laws-to-police-patent-privateering.html*) (describing the transfer of Nokia's patents to patent assertion entity Mosaid, and the further subdivision of those patents between Mosaid and two other assertion entities).

C. Monetization in Patents

In addition to the factors cited above, the current rush toward monetization is contributing to the ability of patent holders to bargain for more than the patent is worth, as well as creating distortions in the market for patents. Traditionally, the patent system has operated with a high percentage of what I would call shadow rights—rights that are never actualized but remain largely invisible, on the periphery of the patent system.

The vast majority of patents have never directly earned a return for the patent holder. Estimates suggest that the number is well above 90%.40 These patents do have some impact on the system. Among other things, they clog the patent system, making it even more difficult for manufacturers to know whether a potential product would infringe any existing rights. Nevertheless, they do not extract any direct returns for their inventors.

In fact, many of these shadow patents were never intended to earn a direct return. When a company patents a particular invention, the company will engage in a series of defensive patents that are intended to cover variations or improvements that others could come up with. The intent is not to create new protects, but to keep others out of the commercial space in which the product is operating, and to protect the company if competitors try to sue.

Many of these unrealized patents, along with patents in general, are of questionable validity. The patent approval system has nowhere near the resources necessary to weed out patents that are weak. One scholar estimates that the average patent examiner spends 18 hours over a period of two to three years examining a particular patent.[41] This is a remarkably small amount of time to evaluate highly technical documents that may contain dozens or even hundreds of separate claims.

Even patents that have some validity may contain claims that are weak. Patent drafters generally include very narrow claims that they can safely expect to survive, and also include a series of increasingly broad claims that reach further and further. The broad claims may be tremendously weak, and unlikely to survive in court. Nevertheless, with the limited amount of time patent examiners have to spend on each application, the patent office is unlikely to catch all of the claims that reach too far.

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[40] Parchomovsky & Wagner, *supra* note 37, at 5 (noting that estimates suggest that less than 5 percent of patents hold any value); *see also* Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 267 (1977).

[41] Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1500 (2001).

Some scholars suggest that the limited patent examination is actually efficiency enhancing.[42] Given that we could not possibly afford a deep examination of each patent application and each claim, it is better to focus societal resources on those patents that turn out to be important, which can be determined by those that make it to litigation.

However, if it is too great a burden on the patent office to examine each patent application extensively, imagine what would happen to the entire patent system if every patent, or even large numbers of the shadow patents, were to become monetized. That is precisely what is happening in the modern patent system.

The modern combination of Magnification and monetization is playing out in ways that are inconsistent with the goals of the patent system. The Constitutional language explains that the goal of the patent system is "to promote the progress . . . of the useful arts." In other words, patents do not seek to promote for example, science for the sake of science, but rather to encourage the creation of products that will be useful and beneficial to society. Although enormous amounts of money are being paid through patent assertion, there is no evidence to suggest that much in the way of new products are emerging from all of the modern patent assertion activity.

One might argue that the system helps return greater sums to inventors, which has the indirect effect of creating incentives to others who might innovate. Economic evidence, however, suggests that realtively little of the patent assertion money is actually returned to inventors.[43] Thus, the current system is a remarkably "leaky bucket."[44]

1. The Traditional Troll

Monetization behavior began with small numbers of arbitrageurs who looked for undeveloped patents that could be asserted against successful products. Known as "patent trolls" or more charitably, "non-practicing entities," these small-

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[42] *See id. See also* Christian Bessy & Eric Brousseau, *Technology Licensing Contracts: Features and Diversity*, 18 INT'L REV. L. & ECON. 459 (1998); Eric Brousseau & Christian Bessy, *Public and Private Institutions in the Governance of Intellectual Property Rights*, *in* INTELLECTUAL PROPERTY RIGHTS: INNOVATION, GOVERNANCE, AND THE INSTITUTIONAL ENVIRONMENT 243, 251 (Birgitte Andersen, ed. 2006); F. Scott Kieff, *The Case for Registering Patents and the Law and Economics of Present Patent-Obtaining Rule*s, 45 B.C. L. REV. 58 (2003); *see also* Kelly Casey Mullally, *Legal (Un)certainty, Legal Process, and Patent Law*, 42 LOY. L.A. L. REV. 1109 (2010).

[43] *See* James E. Bessen, Jennifer Ford & Michael J. Meurer, *The Private and Social Costs of Patent Trolls*, REGULATION, Winter 2011-2012, at 26; Bessen & Meurer, *supra* note 23.

[44] Professor Carl Shapiro used this wonderfully expressive phrase to explore the implications of the patent assertion in his comments at the FTC/DOJ Workshop on Patent Assertion Entities in December of 2012.

scale operations generated tremendous returns, without producing a single product. Scholars and commentators have argued over what to call these players and how to categorize them. Universities, for example, are technically non-practicing entities. They generally license out the inventions created in their labs, rather than "practicing" the patent to manufacture a product. University behavior on the whole, however, tends to be quite different from that of garden-variety trolls, and some commentators are uncomfortable grouping them together.[45]

I have suggested using the term "patent monetization entities" for these players and their fellow travellers. It has the virtue of capturing the notion that the entity is specifically designed and intended for monetizing patents, and it leaves out universities, whose core activities differ significantly from this group.[46]

2. New Forms of Patent Monetization Entities

Over the last five years, new types of patent monetization entities have emerged. These entities are bigger and much more complex than the original patent trolls. Moreover, the phenomenon of patent monetization has spread from a limited number of individual players, to a large number of entities of varying configurations.

These new arrivals include mass aggregators, who operate in part as patent defense clubs, protecting their members against operating companies who would assert patents against them. The mass aggregators, however, also operate as monetizing organizations, promising large returns to their members and investors. The largest and most secretive, Intellectual Ventures, has amassed at least the 5th largest patent portfolio of any domestic company and has done so in about five years.[47]

Variations on the theme abound. Some operating companies have entered the patent monetization game by either creating subsidiaries to manage their intellectual property portfolios or transferring their intellectual property to third parties, who purchase the patents either for an infusion of cash or for a return on the monetization activities of the third-party.

The explosion in monetization activities is creating pressure on corporate counsels at all companies to find ways to monetize their intellectual property portfolio, particularly their patents. With pressure from the Board to maximize immediate

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[45]Jaconda Wagner, *Patent Trolls and the High Cost of Litigation to Business and Start-Ups – A Myth?*, XLV Md. B.J. 12,14 (2012); *see also* Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 612 (2008).

[46]*See* Sara Jeruss, Robin Feldman & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on U.S. Litigation*, 11 DUKE L. & TECH. REV. 357, 361 (2012).

[47] For a detailed description of mass aggregators and the potential anticompetitive effects, see Ewing & Feldman, *supra* note 22.

revenue, along with numerous approaches from IP brokers offering to buy or monetize portions of the company's portfolio, it can be difficult for corporate counsel to take the long-term view of the company's interests. In particular, if everyone is getting on board, shouldn't we join or at least hedge our bets?

The situation is reminiscent of a wonderful letter written by an anonymous tax lawyer to the Commissioner of the IRS in the 1990s.[48] Signed with the moniker, "Rusty Pipes," the letter described the fictitious tribulations of a simple, honest plumber as he watched others cut safety corners, split the cost savings with their clients, and react in horror when anti-abuse rules were introduced.

The temptation to monetize is spawning a variety of new entities. For example, Wired magazine recently interviewed a "reverse engineer" working for a monetization entity called "Rockstar Consortium."[49] Rockstar Consortium is funded by companies such as Apple, Microsoft, Research in Motion, Sony, and Ericsson. Reverse engineers at Rockstar study successful products like routers and smartphones looking for ways to claim that the successful product infringes one of Rockstar's thousands of patents. Rockstar then contacts the company and demands a license fee.[50]

As monetization activities and variants are expanding rapidly, the activity feeds on itself in ways both large and small. For a small example, consider the inventor who had sued an operating company for infringing his patent. The inventor received a call from an old friend, now at a patent monetizer, who explained that purchasing the patent or a blanket license might be of interest to the monetizer. If the inventor wanted to proceed, however, he would need to file lawsuits against many more of the aggregator's members, to ensure that the purchase was of sufficient interest to the group. Individual moments like these are a reminder of the gold rush atmosphere of today's patent monetization. Everyone is scrambling for a piece of the action—for themselves, for their businesses, for their friends—and there are very few rules in place.

These patent monetization entities and their potential effects on the patent market and the broader economy are fascinating topics.[51] Nevertheless, the point for the purpose of this article is the following: The patent system has long operated with the comfort of knowing that only a tiny percentage of patents will ever earn a return. In our brave new world, large numbers of patents, that would not have garnered any

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[48] *See The Timeless Wisdom of Rusty Pipes*, TAX NOTES TODAY, Dec. 21, 1998.

[49] *See* Robert McMillan, *How Apple and Microsoft Armed 4,000 Patent Warheads,* WIRED, May 21, 2012, *available at* http://www.wired.com/wiredenterprise/2012/05/rockstar/all/1.

[50] *Id.*

[51] Ewing & Feldman, *supra* note22; Bessen & Meurer, *supra* note 23; Chien, *supra* note 23.

return in the past, are being traded and monetized. Their presence in the market, particularly in the form of commoditized, tradable rights, enhances the uncertainty and game playing that allows patent holders to obtain rights above the value of patent itself.

3. Can Monetization Impact Biotech and Pharma?

Conventional wisdom in patent circles holds that patent trolling and monetization are primarily a high tech problem—not one that affects the biotech and pharmaceutical industries. It is certainly true that certain aspects of life in the world of health science invention make the environment less hospitable to monetization. For example, a new medicine may be protected by one key patent on the molecule or the chemical formulation, rather than the hundreds of patents one can find in a typical high-tech product. In addition, timing is quite different in the two industries, both in terms of lead time and in terms of shelf life. A blockbuster drug requires years of expensive investment to develop the drug and take it through the arduous process of testing and approval. Once on the shelves, however, it can remain a force in the marketplace throughout the life of the patent. In contrast, many high-tech products can be invented cheaply and easily. Their shelf life may be considerably shorter as well, with market trends making them obsolete long before the patent has expired.

Finally, the startup costs for entering the high-tech market are lower than in biotech and pharmaceuticals. One is far less likely to find inventors making medical devices out of their garages. As a result, there may be fewer inventors in the field, outside of operating companies and universities.

It is only a matter of time, however, before monetizers find their way into biotech and pharma, using weak or tangential patents to extract payments from companies with useful products on the market.[52] A monetizer would not need to raise the specter of being a legitimate competitor in the market in order to extract value from existing products. Rather, the amount of investment necessary to bring a product to market would make bio and pharma companies particularly appealing targets. What difference is a small settlement payment when one is on the cusp of approval?

In addition, the vast amount of unused innovation from universities offers a particularly tempting watering hole. Spurred by the Bayh-Dole Act of 1980, which gave universities the right to patent inventions that benefitted from federal funding, university patent holdings have mushroomed over time, with very few of the patents ever being licensed. This could provide an enormous shopping mall for monetizers,

[52] Feldman, *supra* note21.

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who could roam through their wares looking for patents to assert against successful products.

If such behavior takes off, it would be a sad twist to the Bayh-Dole Act. The Act, which was intended to encourage translation of academic research into new products for consumers, would become the vehicle for adding a tax on existing products—one that would most likely be paid in higher consumer prices.

There are early signs that monetization is finding its way into the biotech and pharmaceutical markets. For example, it is not difficult to find evidence that patent monetizers are purchasing patents from universities---patents that were obtained for inventions created with federal funds. For example, the PTO assignment database shows that CalTech sold a large group of patents to Intellectual Ventures in September of 2008.[53] Looking at one of those patents at random, one can see that it contains the standard notice that the invention was created pursuant to grants from the National Science Foundation.[54]

In another sign of things to come, I spoke to a patent broker recently, who is ordinarily in the business of monetizing high-technology portfolios. He has been asked, however, by a major pharmaceutical company to shop their non-core patent portfolio. Pandora's box has been opened, and it will not be easy to close.[55]

D. Magnification and Monetization in Copyright

The copyright system manifests some of the same characteristics of uncertainty of boundaries, high cost of dispute resolution, and the risk of costly remedies as patents. Although the details of these characteristics differ substantially from the way in which they arise in the patent system, these characteristics foster the same type of magnification, in which the rights holder can bargain for more than the value of the copyrighted work. Copyright is also experiencing aggregation and monetization schemes, although not nearly as large and widespread as in patents.

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[53] http://assignments.uspto.gov/assignments/q?db=pat&reel=022117&frame=0805

[54] The patent is US 7,023,435, "Object surface representation and related methods and systems." It contains the statement that "The U.S. Government has certain rights in this invention pursuant to Grant Numbers ACI-9721349 and DMS-9874082 awarded by the National Science Foundation." *See* [insert proper citation for Patent], *available at* http://patft.uspto.gov/netacgi/nphParser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7023435.PN.&OS=PN/7023435&RS=PN/7023435. I wish to thank Tom Ewing for providing these examples. *See also* Arti K Rai & Bhaven N. Sampat, *Accountability in Patenting of Federally Funded Research*, 30 NATURE BIOTECHNOLOGY 953 (2012) (describing some of the concerns arising out of these types of sales to monetization entities, including stifling innovation generally).

[55] *See* Feldman, *supra* note 21.

Copyright protects the manner in which an idea is expressed. It is not the idea itself that we protect but rather the way the author chooses to express that idea.[56] Thus, copyright protects something that is intangible, and understanding the boundaries of something that is intangible is inherently subject to uncertainty.

Moreover, the legal rules themselves contribute to the atmosphere of uncertainty, particularly the notorious doctrine of fair use. Fair use is a complete defense to an action of copyright infringement. It is a fact-intensive balancing test in which the statutory factors listed are not exclusive, and the courts have determined that no one factor is dispositive.[57]

A fact-intensive balancing test of this type, all but guarantees a high degree of uncertainty, particularly when the factors are open-ended. Fair use definitely follows that prediction. Most fair use cases that have been decided by the Supreme Court have been decided 5-4, in a decision that reversed a court of appeals decision, which had reversed the trial court opinion. In the realm of fair use, certainty is not ours, nor is predictability.

The costs for determining whether infringement has occurred are not necessarily as great for copyright as for patent. Copyright cases do not routinely incur the extensive expert costs and drawn out pre-trial battles that characterize patent cases.[58] In particular, the Copyright Act allows infringers to elect statutory damages, rather than proving actual damages, which can eliminate the need for complex testimony on damages.[59] In addition, the copyright system manifests particular mechanisms, some legislative and some market-based, that facilitate licensing of rights.[60] Nevertheless, any system in which a key determination is subject to such variability is

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[56] For example, the idea of a story about two star-crossed lovers from feuding families with a tragic ending is not copyrightable, but the dialogue, plot sequence, and the way the interaction among the characters unfolds is copyrightable. 3 MELVILLE B. NIMMER & DAVID NIMMER, LAW OF COPYRIGHT § 13.03(A)(1)(b) (1963).

[57] Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1993), *cited with approval* in Asset Mktg. Sys., Inc. v. Gagnon, 542 F.3d 748, 758 n.5 (9th Cir. 2008), *and* Wall Data Inc. v. Los Angeles Cnty. Sheriff's Dep't, 447 F.3d 769, 778-779 (9th Cir. 2006).

[58] "The Eastern District of Virginia is known as the 'rocket docket' because civil actions move to trial or are otherwise resolved. As Pragmatus [the plaintiff] notes in its opposition brie, the mediam time for the filing of a civil action to its final disposition in this district is 10 months, compared to 26.2 months in the Northern District of Calfornia."Pragmatus AV, LLC v. Facebook, Inc., 769 F. Supp. 2d 991, 996 (E.D. Va. 2011); *see also* Polaroid Corp. v Eastman Kodak Co, which took 15 years to reach settlement; Robert W. Kearns v. Ford Motor Company, which took 12 years to reach a settlement [need full case cites for these two].

[59] 17 U.S.C.A. § 504 (West 2006).

[60] *See* Broadcast Music Inc. ("BMI") which collects license fees from businesses that use music, which it distributes as royalties to songwriters, composers and music publishers; The American Society of Composers, Authors and Publishers ("ASCAP") which also protects the rights of its members by licensing and distributing royalties for copyrighted works.

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bound to engender a fair degree of uncertainty, above and beyond the uncertainty that accompanies any litigation.

Remedies within the copyright system also amplify the potential returns, expanding them beyond the value of a copyright's contribution to a product.[61] As with patents, courts routinely grant injunctions in copyright infringement cases, and are even more likely to grant preliminary injunctions in copyright than in other types of cases.[62] Moreover, legislation such as the Digital Millennium Copyright Act raises the specter of criminal sanctions as well as civil sanctions--a threat that can be particularly unnerving for individuals accused of infringement.[63]

Finally, the copyright system manifests an additional characteristic that provides opportunities for magnification. Specifically, there is a strange mismatch between cultural norms and the law's dictates in the copyright system. Individuals regularly engage in copyright infringement--sharing songs with friends, downloading music and movies illegally, incorporating copyrighted material into their websites and electronic communications, and photocopying written materials to hand out in classes, lectures, and meetings. One can speculate about whether this rampant infringement reflects a culture of thieving and lawlessness or a popular protest of the overbroad nature of copyright law.[64] It could also reflect a variety of other social

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[61] Shyamkrishna Balganesh, *The Uneasy Case Against Copyright Trolls*, 86 S. CAL. L. REV.59 (2013) (noting that copyright trolls always elect statutory damages through which they are essentially guaranteed a meaningful recovery.)

[62] *Seeid.*;*see also* ARTHUR R. MILLER & MICHAEL M. DAVIS, INTELLECTUAL PROPERTY: PATENTS, TRADEMARKS, AND COPYRIGHT § 26.1 (West 2012) (5thed.).

[63] 17 U.S.C.A. § 1204 (West 2006). Simply must violate section § 1201 or § 1202 willfully and for commercial gain.

[64] Ben Depoorter, Alain van Hiel & Sven Vanneste, *Copyright Backlash*, 84 S. CAL. L. REV. 1251 (2011) (analyzing the results of two different conducted studies to find that enforcement measures which are seen as normatively excessive may lead individuals to believe that a legal rule is unjust, and create a social backlash that could prove counterproductive to copyright); Daniel J. Gervais, *The Price of Social Norms: Towards a Liability Regime for File-Sharing*, 12 J. INTELL. PROP. L. 40 (2003) ("Could it be that what some institutions wrongly perceived as simple intellectual property theft – which should be fought in the same way as, say, shoplifting – could also and simultaneously be portrayed as a new form of interest-based social interaction?"); Yuval Feldman & Janice Nadler, *The Law and Norms of File Sharing*, 43 SAN DIEGO L. REV. 577 (2006) ("In certain areas of life, there are many easy opportunities to violate the law where the resulting harm is apparently minimal; the presence of ready opportunity and absence of serious harm make such iolations common. In extreme cases, violating the law is the norm."); Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263 (2002) (describing current social norms and explaining that many individuals believe that punishment for file sharing and copying copyrighted material for personal use is an infringement of their liberty interests, such that alleging copyright infringement in these scenarios is not an appropriate remedy).

phenomena.[65] Regardless of the explanation, the significant gulf between legal rules and societal norms in copyright adds to the magnification power within the system.

For example, many individuals are generally aware that they are violating copyright regulations, regulations they may view as inappropriate or burdensome. When faced with an accusation of infringement, it is possible that people simply capitulate regardless of the legitimacy of the claim, agreeing to the terms required or relinquishing the settlement demanded. This is particularly true in light of the differing characteristics of those who may be claiming copyright infringement and those who may be defending themselves from it. The size of the potential damages may encourage copyright infringers to settle quickly. Under the Copyright Act copyright holders can elect to ask for statutory damages instead of actual damages. Statutory damages can range between $750 and $30,000, and if the infringement is willful, damages may increase to as much as $150,000 per work.[66] Thus, even if damages are minimal, for example, when the cost of the allegedly illegal copy is only one or two dollars, the threat of statutory damages looms much larger. Although criminal prosecutions are rare and unlikely to apply to most cases of infringement by individuals,[67] the specter of criminal sanctions may increase the psychological pressure for settlement, regardless of whether the settlement request is justified.

E. Shadow Rights in Copyright

As with the patent system, the copyright system has existed for some time with a significant percentage of shadow rights, that is, rights that are never actualized or enforced in any manner. The phenomenon takes shape differently in copyright than in patent, but the result is similar.

Two factors in modern history have greatly accelerated the sheer volume of unactualized copyrights. First, in an effort to conform to international norms and treaty obligations, the United States eliminated the requirements of notice and regis-

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[65] For example, to offer an analogy, although most people disobey speeding laws, they may generally agree that such laws are necessary and appropriate. Similarly, copyright infringers may generally agree that current copyright provisions are necessarily, while ignoring them.

[66] 17 U.S.C. § 504 (West 2006); *Capitol Records, Inc. v Thomas-Rasset,* 692 F. 3d 899 (8th Cir. 2012) (in which a mother was fined 1.9 million dollars by a jury for sharing 24 songs on the peer-to-peer network Kazaa.)

[67] *See* 18 U.S.C. § 2319 (2000) (providing criminal penalties for those who willfully infringe for the purpose of commercial advantage). Criminal penalties in copyright are not used frequently as it is difficult to prove "willful infringement." *See* U.S. v. Moran, 757 F. Supp 1046 (D. Neb. 1991). Defendant made an illegal copy of a video cassette and the court determined it was not willful.

tration in 1989.[68] Prior to that time, for copyright to attach, an author had to place a copyright notice on a work and deposit a copy with Library of Congress.[69] Since 1989, copyright has attached the moment that a work is fixed in a tangible medium of expression, and fixation occurs when a work is written down, photographed, or otherwise recorded. Elimination of notice and requirement has meant that a vast number of moments of expression have fallen under the protection of copyright.

Second, the explosion of digital technology and digital communication methods has exponentially increased the number of works subject to copyright. People are constantly fixing things in a tangible medium of expression, things that would have remained inchoate in prior generations. Rather than making a phone call or engaging in a personal conversation, we email, text and Tweet. We record every moment of our friends and children's lives in still and video format, either capturing them unaltered, or manipulating them using ever-easier tools to produce our own movies, websites and self-published works. Although the amount of copyright protection may be thinner in some of these circumstances, thinner protection often relies on the ever-elusive fair use doctrine.

These changes have spawned an astoundingly vast amount of material that may be subject to claims of copyright—claims that, for the most part, are never actualized. How many of us have ever brought, or even considered, a claim of copyright infringement based on the mass of fixed material we have in our lives?

Modern technology also increases the potential for harvesting copyright claims. Data mining tools may allow content creators to actualize their increasingly large numbers of rights—rights that would have previously remained unasserted.

Aggregation techniques may further boost the harvesting of copyright claims. Although aggregation in copyright has not yet developed as extensively as in patent, there is evidence of significant aggregation activity. And of course, copyright's version of magnification brings opportunities for mischief, as described above.

III. Troubling Schemes

The following section discusses a variety of troubling behaviors that are emerging in intellectual property markets. The examples included are not isolated

[68] Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853 (codified as amended in various sections of 17 U.S.C.).

[69] US Copyright Office - Registering a Work (July 16, 2012), http://www.copyright.gov/help/faq/faq-register.html (last visited January 8, 2013).

incidents, but appear to represent standard behaviors or trends in intellectual property rights interactions.

The examples were chosen for inclusion because the behavior trails are relatively easy to follow. I note that some of the examples track allegations in filings before courts and regulatory agencies, rather than final determinations of fact. At the very least, these offer insights into the types of behaviors that are possible under our current system and that our system would be ineffective at counteracting.

A. The Barnes & Noble Saga: The Power of Silence

Barnes & Noble manufactures the Nook electronic reader, which allows users to read electronic versions of books on a handheld device.[70] The Nook uses the Android operating system, based on the open source Linux system.[71] Other devices, including a variety of smart-phones, also use the Android operating system.

Microsoft produces the Windows operating system. Windows competes with Linux-based systems in a variety of markets including, smartphones and electronic readers.

Federal court filings by Barnes & Noble, as well as a letter to the Department of Justice, detail the following saga between Barnes & Noble and Microsoft.[72] In 2010, Microsoft approached Barnes & Noble saying that the Nook infringed six of Microsoft's patents. Patents generally include numerous independent claims, and it is rarely clear which claim might be relevant or why a patent holder might be asserting that a particular patent infringes a product. Normally, the patent holder would provide additional information about which claims it believes are infringed by the prod-

[70] I will refer to these collectively as "the Nook" except where there is a difference between the two for the specific issue discussed. This type of device in general may be referred to as an "eBook reader." As with other computer-like devices, the Nook uses an operating system, similar to the way that desktop computers may use Windows, Linux, or an Apple operating system.

[71] The Android operating system is a Linux based operating system designed primarily for touchscreens. Android is an open source program that allows users to freely modify existing code and redistribute it. http://developer.android.com/index.html (last visited January 8, 2013).

[72] Microsoft Corp. v. Barnes & Noble Inc., No. 2:11-CV-00485 RAJ (W.D. Wash. Apr 25, 2011); Letter from Gene DeFelice, Vice President, General Counsel & Secretary, Barnes & Noble, to James J. Tierney, Chief, Networks & Technology Enforcement Section Antitrust Division, United States Department of Justice (Apr. 25, 2011), *available at* Certain Handheld Electronic Computing Devices, Related Software and Components Thereof, Inv. No. 337-TA-769, USITC Doc. ID 463533, Exhibit B (File ID 675083). (Nov. 7, 2011) (Settled) [hereinafter B&N Answer and B&N Letter to DOJ].

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uct so that the target company can make an assessment of whether to pay for a license. Gamesmanship over claims, however, is not uncommon in the patent world.[73]

In this case, Microsoft refused to provide any details unless Barnes & Noble signed a non-disclosure agreement. Barnes & Noble objected, given that the claims are public information.

One could imagine a patent holder arguing that the while the claims are public, the patent holder's litigation approach and strategy are private. After all, the patent holder may intend to assert similar claims against other device-makers whose devices use the Android operating system. Publication of a patent, however, is intended to provide notice to all of the territory the patent holder controls.[74] Alleging confidentiality for what one asserts is the territory covered by one's patent is in tension with the notice function of a patent.

After considerable back and forth, the parties eventually agreed to a limited non-disclosure agreement that would cover "any non-public claim charts provided to Barnes & Noble by Microsoft relating to the patents in dispute."[75] Despite Microsoft's insistence that the charts must be covered by a non-disclosure agreement, however, the charts delivered did not contain any private information.

According to the filing, the patents discussed at the meeting were not essential patents for the Android operating systems, but rather minor peripheral patents. For example, the asserted patents concerned making file names for modern operating systems compatible with file names for outmoded operating systems and simulating mouse inputs using non-mouse devices.

Barnes & Noble has asserted that Microsoft asked for a remarkably high license fee at the meeting,[76] with the proposed fee amounting to more than what Microsoft was charging for its entire operating system for mobile devices. The meeting

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[73] For an example of a common technique in patent licensing negotiation, *see generally* Jason Rantanen, *3M v. Avery: Walking the Line of Declaratory Judgment Jurisdiction*, PATENTLY-O, Mar. 29, 2012 (describing suit in which patent holder sent letter that a 3M product "may infringe" and that "licenses are available" but refused to provide claim chart information in the hopes of waving patents without giving the accused infringer sufficient cause to bring a declaratory judgment action to declare the patents invalid), *available at* http://www.patentlyo.com/patent/2012/03/3m-v-avery-walking-the-line-of-declaratory-judgment-jurisdiction.html.

[74] 35 U.S.C. § 112 (2006).

[75] B&N Answer (paragraph 18, lines 14-16).

[76] Letter from Gene DeFelice, Vice President, General Counsel & Secretary, Barnes & Noble, to James J. Tierney, Chief, Networks & Tech.Technology Enforcement Section Antitrust Div. Division, United States Department Dep't Department of Justice - Exhibit B (Apr. 25, 2011), *available at* http://www.groklaw.net/articlebasic.php?story=2011111122291296 (last visited Jan. 8, 2013).

was unsuccessful, and a few months later, Microsoft filed an infringement action against Barnes & Noble.[77]

A year after the lawsuit was filed, the two parties announced a deal in which Microsoft would pay $300 million dollars for a 17.6% stake in the Nook division. This gave the Nook division a desperately needed cash infusion.[78] As part of the deal, the parties agreed to settle their patent disputes and to produce a Nook application for Windows.[79]

The sequence of events raises questions about the appropriate use of intellectual property. If the patents were indeed peripheral to the operating system, it is doubtful that their contribution to the Nook product constituted anything close to the value of an entire operating system. Asking for that amount, however, could have the effect of encouraging device makers to switch operating systems. If I can get the entire operating system for roughly what I have to pay for a few minor pieces of my current one, it would certainly make economic sense to switch. In that case, if the allegations are correct one could argue that the patent holder used minor patents to intimidate a competitor's customer and induce the customer to move to the patent holder's product. As a colleague noted wryly, this would be a marvelous way to attack a competing platform: threaten, litigate, drive down share price, buy company cheap, and get platform adopted.

Insistence on non-disclosure agreements raises serious concerns as well. As noted above, demanding confidentiality for what one claims is the territory covered by one's patent should be antithetical to the notice function of a patent in most circumstances. A confidentiality provision, however, may serve even more troubling aims. One could imagine that a non-disclosure agreement under such circumstances could be intended to shield inappropriate actions from view in an effort to protect the patent holder from potential antitrust charges. Cloaking one's actions in non-disclosure agreements makes it more difficult for public and private antitrust actors to make the necessary connections between different transactions that could reveal a pattern of anticompetitive conduct emerges. In that case, intellectual property is being used to shield anticompetitive behavior.

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[77] In July 2010, Microsoft first met with Barnes & Noble to discuss patent issues related to the Nook. In December 2010, they met to discuss Microsoft's patent infringement claims against the Barnes & Noble Nook.

[78] Michael J. De La Merced & Julie Bosman, *Microsoft To Take Stake in Nook Unit of Barnes & Noble*, N.Y. TIMES (Apr. 30, 2012), http://dealbook.nytimes.com/2012/04/30/microsoft-to-take-stake-in-barnes-nobles-nook-unit/(last visited Jan. 8, 2013).

[79] *See id.*

This could be particularly problematic if the full picture of a scheme can only emerge across different transactions involving different parties. Under those circumstances, swearing each party to silence makes it very difficult for anyone to see the full picture. It may also delay recognition until the perpetrator's position is secured or the scheme is too far advanced for much to be done.

Judges themselves may be unwitting participants in this veil of silence. Courts seem to be quite willing to seal documents in these cases, reducing the ability of observers to see patterns of troubling behavior emerge across litigations.

The complexity and sophistication of modern patent schemes makes it particularly difficult for public and private antitrust actors to follow the trail. Not only are patent monetization entities transferring patents to operating companies so that the operating companies can use the patents in litigation, operating companies are also transferring their intellectual property to third-party monetization entities, sometimes as part of elaborate anticompetitive schemes.[80] Known as privateering, this practice can be an effective method of raising rival's costs and maintaining one's position on the marketplace. In this context, silence can help keep meddlesome government regulators and the private antitrust bar off your back.

Questionable requirements of silence are appearing in a variety of intellectual property contexts. Consider Intellectual Ventures, the largest and most secretive of the mass aggregators. Intellectual Ventures has assets of at least $5 billion and is estimated to own the fifth largest patent portfolio of any domestic U.S. company.[81] It has been extraordinarily difficult to get a picture of the entity and its activities, in part because of the more than 1,000 shell companies that Intellectual Ventures has established and, in part, because of the entity's non-disclosure agreements. Those who interact with Intellectual Ventures, either as investors, participants in its patent pools, or suppliers of patents, must sign strict non-disclosure agreements.

The entity's efforts to reign in disclosure appear to have been quite effective. As one reporter noted: "[W]e called people who had licensing arrangements with [In-

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[80] For descriptions of "privateering" in the intellectual property world, that is, incentivizing third parties to attack one's enemies, *see* Ewing, *Indirect Exploitation*, and Ewing, *Practical Considerations*, *supra* note 24. For a detailed description of mass aggregators, often consisting of competitor groups, and anticompetitive concerns, *see* Ewing & Feldman, *supra* note 22. For additional stories on operating companies creating or interacting with monetizing entities, *see* Ashby Jones, *Patent "Troll" Tactics Spread,* WALL ST J. (Jul. 9, 2012) (describing how operating companies are spinning off technology to monetization entities to pursue patent claims against other companies); Andrew Tarantola, *Nokia Just Sold Hundreds of Its "Essential" Wireless Patents,* GIZMODO, Jan. 13, 2012, *available at* http://gizmodo.com/5876068/nokia-just-sold-hundreds-of-its-essential-wireless-patents (describing sale of Nokia patents to an aggressive monetization entity).

[81] For a detailed description of Intellectual Ventures and other mass aggregators, *see* Ewing & Feldman, *supra* note 22.

tellectual Ventures], we called people who were defendants in lawsuits involving [Intellectual Ventures] patents, we called every single company being sued by Oasis Research. No one would talk to us."[82]

Even more troubling, I spoke to one government regulator who said that at least some of the Intellectual Ventures agreements contain not only non-disclosure clauses, but also non-disparagement clauses. In other words, those who interact with Intellectual Ventures would not be permitted to say anything that is at all critical about the entity, regardless of whether the comments disclose any information about the business dealings. Not surprisingly, I have been unable to confirm whether the claim is accurate, but it does raise serious concerns even as a hypothetical. There would be something deeply disturbing if a large and powerful entity were able to use its vast intellectual property assets to silence potential criticism. Our current system would not stem this type of behavior.

A variation on the patent non-disparagement clauses has been noted in the copyright context as well. Hospitals and other health care providers operate through complicated health information technologies, often provided by outside vendors. The vendor contracts mandate that the hospital may not disclose errors, bugs, design flaws or other software-related hazards.[83] In other words, in order to use my copyrighted software, you must agree not to tell anyone about any problems in the software. Health care practitioners have expressed concern that they cannot even share information about errors in a program, such as the way a program calculates dosages or a patient weight, with other organizations they work with, even if those errors could lead to serious patient harm.[84]

The problem of non-disparagement or do-not-criticize clauses is particularly disturbing in light of the origin of the power being exercised. In a society that prizes freedom of speech, it would be particularly troubling if intellectual property, created and granted by the sovereign, were being used to negotiate for, or even impose, restrictions on free flowing discourse.

Improper use of non-disclosure agreements is a good example of why a doctrine of inappropriate use of intellectual property would have to include all forms of

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[82] Alex Blumberg & Laura Sydell, *This American Life: When Patents Attack*, NAT'L PUB. RADIO, July 22, 2011, *available at* http://www.npr.org/blogs/money/2011/07/25/138576167/when-patents-attack.

[83] *See* Kenneth W. Goodman et al., *Challenges in Ethics, Safety, Best Practices and Oversight Regarding HIT Vendors, their Customers, and Patients: A Report of the AMIA Special Task Force,* 18 J. AM. MED. INFORMATICS ASS'N. 77 (2011).

[84] *See id.*; Ross Koppel & David Kreda, *Health Care Information Technology Vendors' "Hold Harmless" Clause: Implications for Patients and Clinicians,* 301 J. AM. MED. ASS'N. 1276, 1277-78 (2009).

intellectual property. Patent holders routinely draft contracts to cover not just the patent itself, but also trade secrets and things called "know-how" and "show-how." Many of these contracts are drafted so that issues that have the potential of running afoul of patent laws are conveniently placed under trade secrets. Thus, without universal coverage of the notion of inappropriate use, parties would simply draft their contracts so that the non-disclosure clauses are justified for purposes unrelated to the patents.

B. Using Patent Schemes for Insulation

Perhaps one of the most useful aspects of patent monetization entities is that they create an offensive weapon that can be used against opposing parties without creating opportunities for the opposing parties to respond. Normally, if a company that actually makes a product wants to threaten patent litigation against another company that makes a product, there is a risk that the target will file counter-claims, waving its own patent portfolio and threatening the first company's products. Thus, the most powerful position for launching a patent strike against another company is when one does not have any products at risk. Patent monetization entities are the perfect vehicles because they do not produce any products at all. An operating company can create a monetization entity with its intellectual property, drop the assets into it, and then allow the entity to go after targets—thereby insulating the company from any counter-offensive. These entities are the perfect attack dog, with little at risk in the way of either vulnerable products or other assets that could be attached if a court wanted to award attorneys fees or other penalties. Of course, all of this litigation certainly is not helping consumers.[85] Vast amounts of societal resources are wasted in the course of all of this positioning and patent battling.

Monetization entities not only insulate companies from patent counter-attacks, they may also insulate companies in other ways. For example, transferring intellectual property from a US subsidiary to a foreign parent can create a layer of protection against discovery. Courts have ruled that where the parent is a foreign corporation, even when the subsidiary is a US corporation, documentation in the hands of the parent are beyond the subpoena power in litigation, and the parties must proceed according the Hague Convention.[86] One practitioner noted that they

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[85] Josh Kosman , *Patently False: Critics Calling Out Deal by Microsoft & Nokia Over Antitrust Alarms,* N.Y. POST, Sept. 15, 2011 (citing Michael Carrier), *available at* http://www.nypost.com/p/news/business/patently_false_E4uHQUFC5XLDMmKgM7wb8K

[86] *See, e.g.,* Ethypharm S.A. France v. Abbott Labs, C.A. No. 08-126-SLR-MPT, *Memorandum Order Regarding Discovery Matters (*D. Del. Nov. 15, 2010) at 11, *available at http://www.scribd.com/doc/43887138/Ethypharm-S-A-France-v-Abbott-Laboratories-C-A-No-08-126-*

encountered this stumbling block when Sony and Nokia transferred their patents to a foreign monetization entity.[87]

In addition, concerns have been raised about patent transfers that could have the effect of "laundering" the original patent holder's commitments to a standards setting body.[88] When a particular patent constitutes an essential patent under a standards agreement, the patent holder generally must license the patent to all on fair, reasonable and nondiscriminatory terms, also known as "FRAND." The standards setting body's rules may also specify that the patent holder should ensure that its obligations carry forward with any assignment of the patent. This, however, may not always happen, and it is not clear, for example, that a bankruptcy court or trustee must require that patents transferred in bankruptcy continue to observe prior obligations to a standards setting body.[89]

Similarly, although standards setting bodies may require that when patent holders transfer their essential patents, the transfer agreement specifies that the new owner will maintain the FRAND and other standards-related obligations of the prior owner, enforcement may be less than ideal.[90] For example the Institute of Electrical and Electronics Engineers Standards Association ("IEEE-SA"), a major electronics standards setting body in the United States, has the power to revoke a member's privileges or even withdraw the member's patent from the standard, if a member fails to comply with its obligations.[91] This, however, may have little impact. A standard may already be so entrenched in the technology that revocation would have little effect.[92] In addition, if a member has gone bankrupt or has otherwise left the field, revoking the member's privileges may be irrelevant.

IEEE-SA could still have an impact on the party who has received the patent by withdrawing the patent from the standard, but again, this action is only effective if the standard is not already entrenched. Any further enforcement is left to other members, who have the right to bring suit, but a member must be willing individually to shoulder a burden from which all will benefit.

SLRMPT-D-Del-Nov-15-2010.

[87] *See infra* text accompanying note 184 (explaining the larger context of the transaction).

[88] Letter from Steve Mills, IEEE Standards Ass'n, to Donald S. Clark, Secretary, Fed. Trade Comm'n, Association - Re: Patent Standards Workshop, Project No. P11 1204, (Aug. 5, 2011) [hereinafter IEEE Letter], *available at* http://www.ftc.gov/os/comments/patentstandardsworkshop/00046-80184.pdf (last visited Jan. 8, 2013), at 8.

[89] *See id.* at 9.

[90] For an example of avoiding FRAND commitments through transfer of patents, see *supra* note 39.

[91] For a description of IEEE compliance mechanisms, *see id.* at 7.

[92] *Id.*

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C. Unsavory Pressure Tactics

A variety of unsavory pressure tactics have developed along with the patent monetization mania. For example, in May of 2011, an intellectual property blog posted a copy of a letter to the FBI from the owner of a Russian company, Kaspersky Labs.[93] The letter asked that the FBI file criminal charges against a mass aggregator, RPX, for extortion, mail or wire fraud, and racketeering. According to the letter, Kaspersky Labs and 23 other companies had been sued by a patent troll. During the lawsuit, patent aggregator RPX emailed Kaspersky saying that it had acquired the patents in the lawsuit. It offered to release Kaspersky from the suit in exchange for a 3-year membership in RPX at a cost of $160,000 a year.

Kaspersky asserts that in the months that followed, it received more letters and emails from RPX, ratcheting up the pressure to join. RPX noted that other defendants in the suit had joined, and that the deadline to join would soon expire. It explained that if Kaspersky did not join, RPX would make these and other patents from its pool available to others who had already joined RPX. Thus, if those other RPX members were ever in a dispute against Kaspersky, they would be able to assert the RPX patents against Kaspersky.

Finally, RPX noted that although it had pledged not to use any of its patents offensively, it could always transfer its patents to third parties—presumably nasty, aggressive third parties--who would use those patents to file offensive infringement lawsuits. Of course, the only people that the nasty, aggressive third parties would be allowed to sue would be non-RPX members, because RPX would secure a license for all of its members before the transfer. Conveniently, most of Kaspersky's competitors were already RPX members, so if Kaspersky did not join, Kaspersky would be left holding the bag.

If the letter is accurate, who could blame the Russian company for imagining that it was the victim of a racketeering scheme. The sad part is that these and other types of squeeze tactics are threatening to become the norm in intellectual property interactions in this country.

Other types of unsavory pressure tactics revolve around taking advantage of the timing of our ever-fickle stock market. In July of 2012, for example, Yahoo settled a patent litigation that it had filed against Facebook shortly before Facebook planned

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[93] *See* Patrick, *Patent Aggregator RPX Accused of Extortion, Racketeering & Wire Fraud*, GAMETIME IP (May 31, 2011), http://gametimeip.com/2011/05/31/patent-aggregator-rpx-accused-of-extortion-racketeering-wire-fraud/ (last visited Jan. 8, 2013).

to go public.[94] No money changed hands in the settlement, although the parties did agree to expand an existing partnership, as well as to further integrate Facebook's tools into Yahoo's content pages. News reports noted that when the lawsuit was filed, technology commentators criticized Yahoo for behaving like a patent troll and simply looking for a big payday.[95]

In reporting on the settlement, the New York Times hinted broadly that Yahoo had benefitted from patent suits and IPO timing in the past. The article noted that in 2003, Yahoo purchased Overture, a search engine technology company that had sued Google for patent infringement.[96] A year later, Google paid 2.7 million shares of its stock, settling the case before its IPO.[97]

This is certainly not the only example of coordinating patent filings with stock market timing. Other companies appear to have benefitted from patent suits timed in conjunction with IPOs, purchase offers and other significant events.[98]

The topic of questionable pressure tactics provides a perfect bridge from patents to other types of intellectual property. Although most of the article focuses on copyrights and patents, trade secrets have their own history of unsavory pressure tactics. A common improper use of trade secrets involves bringing a weak or even meritless trade secret claim against a former employee or former business partner to keep that person from competing against you. There have been a number of cases around the country in which the trade secret plaintiff, at the end of the day, had to pay fees and/or costs to the defendant for bringing a claim when a reasonable party should have known that the claim could not be established.[99] Such fees are somewhat of a deterrent, but much damage can be done long before parties get to that point, and many parties are not be able to afford to follow a suit all the way through. In addition, the relatively low risk of having fees or costs assessed by a court may be a small price to pay for the intimidation effect that may keep an employee from even recognizing that the company is asserting a weak claim.

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[94] *See* Michael J. De La Merced, *Yahoo and Facebook Settle Patent Lawsuits,* N.Y. TIMES (Jul. 6, 2012), http://dealbook.nytimes.com/2012/07/06/yahoo-and-facebook-said-to-settle-patent-lawsuits/.

[95] *Id.*

[96] *See* Overture Services, Inc. v Google Inc., Justia Dockets Filings (Apr. 23, 2002), *available at* http://dockets.justia.com/docket/california/candce/3:2002cv01991/6770/ (last visited Jan. 8, 2013).

[97] *See id.*

[98] Ewing, *Indirect Exploitation*, *supra* note 24; *see also infra* text accompanying notes 120 - 122 (describing the j2 Global antitrust allegations).

[99] *See, e.g.*, Degussa Admixtures, Inc. v. Burnett, 471 F. Supp. 2d 848 (W.D. Mich. 2007); Digital Envoy, Inc. v. Google, Inc., 370 F. Supp. 2d 1025 (N.D. Cal. 2005); SASCO v. Rosendin Elec., Inc., 207 Cal. App. 4th 837 (2012); HD Net LLC v. North American Boxing Council, 972 N. E. 2d 920 (Ind. Ct. App. 2012); FLIR Systems, Inc. v. Parrish, 174 Cal. App. 4th 1270 (2009).

As described above, society might be concerned about such tactics even outside of large and powerful entities. Intellectual property rights holders are able to use uncertainty, an expensive resolution process, and the possibility of out-sized remedies to amplify the power of their rights. Thus, even smaller entities who might not otherwise have power in a particular market may still be able to use their intellectual property in ways that allow them to hide embarrassing or illegal conduct, harass competitors, or pressure others into surrendering their rights. The ones that make it to court, not to mention the ones that make it all the way to a judgment, are a small sample of the entire pool.

Unsavory pressure tactics are appearing in conjunction with copyright claims as well as patent and trade secret claims. For example, a San Francisco law firm, has acquired copyrights to a number of pornographic movies.[100] The firm uses digital tools such as the torrent infringement tracker at www.youhavedownloaded.com to find people infringing the copyright. Prenda Law then sends a letter demanding that the infringers pay a thousand dollar fine or defend themselves in court.

Needless to say, a number of alleged infringers have chosen to pay quickly and quietly, regardless of whether the accusation had any merit. One might suspect that the accused infringers are motivated, not by potential embarrassment of an accusation of illegal downloading, but rather by the potential embarrassment of any association with pornography.

Copyright porn trolling is appearing in a variety of forms. For example, there are reports that mass copyright litigation against file sharing, which was pioneered by the recording industry, is now shifting toward litigation against sharing of pornography, although the cases are encountering some resistance in the courts.[101]

An odd variation on the intersection of copyright and pornography is the website incautious.org. Incautious.org claims to have harvested "public comments" posted on sexually-oriented websites in which users left their phone numbers and explicit comments for performers. The comments and phone numbers are then turned into paintings, which are offered for sale at 50 euros each. Presumably, the

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[100] *Suits Against Individuals*, PRENDA LAW INC., http://wefightpiracy.com/suits-against-individuals.php (last visited Jan. 8, 2013); *see also* Megan Guess, *Angry Judge Blasts Port Trolls: "Someone Has an Awful Lot to Hide,"* ARS TECHNICA, Mar. 11, 2013, *available at* http://arstechnica.com/tech-policy/2013/03/angry-judge-blasts-porn-trolls-someone-has-an-awful-lot-to-hide/.

[101] *See* Timothy B. Lee, *Judge Rejects Copyright Trolls' BitTorrent Conspiracy Theory,* ARS TECHNICA, Apr. 1, 2012, *available at* http://arstechnica.com/tech-policy/2012/04/judge-rejects-copyright-trolls-bittorrent-conspiracy-theory/.

primary customer for the supposed artwork would be the person wishing to prevent publication of his or her phone number.

It is unclear whether the website is a joke, a parody, or a serious endeavor to extract money. It could also be an effort to raise awareness about privacy, along the lines of the website PleaseRobMe.com, which tried to alert Twitter users to the dangers of telling a wide audience where they were, and by implication, that their home was empty. Nevertheless, it is a reminder of what unscrupulous players can attempt to do in the modern digital world.

D. Fishing for Infringers

Although not at the scale or level of complexity as patent, copyright also is beginning to experience a variety of trolling behavior outside of the pornographic industry.[102] Consider the case of Righthaven. Righthaven was a copyright monetization entity involving newspaper rights. Founded in 2010 by a Las Vegas attorney and an investment banker, Righthaven partnered with newspaper companies and acquired newspaper copyrights that it enforced by suing bloggers who quoted the newspaper content on the web.[103] Although a fair use defense might have been available, many defendants were willing to settle for a few thousand dollars rather than risk a long and expensive litigation. Righthaven's business initially flourished, collecting over $300,000.[104] Righthaven also collected a number of domain names and trademarks through its settlements. Although the purpose for acquiring these is unclear, one might speculate that Righhaven intended to use them in further intellectual property monetization schemes.

Righthaven's luck came to an end when its aggressive tactics attracted the attention of public interest group Electronic Freedom Foundation, which stepped in to represent some of the defendants. The monetizer's fortunes really took a turn for the worse, however, when it began lying to a federal judge and refusing to follow court orders. Eventually, Righthaven forfeited its assets to pay outstanding fines, and the company's primary attorney has been barred from practicing in Federal Court, pending a Nevada Attorney Disciplinary Hearing.

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[102] For additional discussions of modern copyright mass litigation and trolling concerns, see James DeBriyn, *Shedding Light on Copyright Trolls: An Analysis of Mass Copyright Litigation in the Age of Statutory Damages,* 19 UCLA ENT. L. REV. 79 (2012); Tim Wu, *Jay-Z Versus the Sample Troll: The Shady One-man Corporation That's Destroying Hip-hop*, SLATE (Nov. 16, 2006), http:// www.slate.com/id/2153961/.

[103] Ian Polonsky, *You Can't Go Home Again: The Righthaven Cases and Copyright Trolling on the Internet*, 36 COLUM. J.L. & ARTS 71, 78 (2012).

[104] *Id.* at 80.

Copyright trolling, however, has reached into far more respectable corners. For example, some scientific publishers have begun suing patent attorneys for copyright infringement based on the fact that the attorneys must have submitted copies of copyrighted journals as part of patent applications.[105] Patent attorneys are required by the Patent & Trademark Office to submit physical copies of relevant articles from academic journals. Apparently, the firms already pay for on-line access to the journals and the Patent and Trademark Office has access to most of the articles as well. The publishers are suing on the grounds that the physical copy that was attached to the application constitutes an infringing copy.[106]

One academic journal acknowledged that its research into the infringement activity consists of "trolling through USPTO records."[107] When an article of theirs is cited, the journal checks to see if the firm has licensed more than one copy of the article. The journal then sues those who have not, knowing that the firm will have submitted a copy to the PTO, as well as keeping a copy of the filing for itself, and that copies of the article also reside on the firm's computers.

The US Patent Office has issued a memo arguing that copies submitted as part of a patent application constitute fair use.[108] Nevertheless, the actions are moving forward.

Changes in technological know-how may accelerate this type of copyright trolling. Legal Informatics, which is the study of the structure and properties of information, as well as the application to the organization, storage, retrieval, and dissemination of information, is poised to take off at an explosive pace in the coming years.[109] As greater amounts of data are electronically stored, and as data mining techniques improve, intellectual property monetizers, those pursuing both patent and copyright claims, may find all types of approaches for exploiting the data. For

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[105] *See Copyright: Law Firms Sued for Submitting Prior Art to the USPTO,* PATENTLY-O, Mar. 2, 2012, *available at* http://www.patentlyo.com/patent/2012/03/copyright-lawfirms-sued-for-submitting-prior-art-to-the-uspto.html; *see also* American Institute of Physics Wiley Physics v. McDonnell Boehnen Hulbert & Berghoff (MBHB), No. 12 C 1446, 2013 WL 505252 (N.D. Ill. 2013).

[106] *See id.*

[107] "Trolling through USPTO records" is the typical language used in a cease and desist letter. *See The New Choice: Inequitable Conduct or Copyright Infringement*, PATENTLY-O, Jan. 23, 2012, *available at* http://www.patentlyo.com/patent/2012/01/copyright-license-for-ids-submissions.html (last visited Jan. 8, 2013).

[108] *See id*; *see also* Bernard J. Knight, *USPTO Position on Fair Use of Copies of NPL Made in Patent Examination,* Jan. 19, 2011, *available at* http://www.uspto.gov/about/offices/ogc/USPTOPositiononFairUse_of_CopiesofNPLMadeinPatentExamination.pdf (last visited Jan. 8, 2013).

[109] Sanda Erdelez & Sheila O'Hare, *Legal Informatics: Application of Information Technology in Law,* 32 ANN. REV. INFO. SCI. & TECH. 367, 367 (1997).

example, consider all of the information that is generated publicly with any lawsuit—from depositions, to expert testimony, to exhibits. Much of that information is in the public record. Once it can be sufficiently mined, monetization entities can sift for evidence of innumerable types of copyright and patent claims.

In drafting this article, I strongly considered eliminating the prior paragraph. I worry that it could provide the spark that encourages monetization entities to head in the direction of data mining and legal informatics—making me an unwilling catalyst for activities that are harmful to innovation and waste society's resources. Nevertheless, having heard a number of my students discuss the potential within this area, I concluded that it is better to initiate the discussion and hope that courts and legislatures will take advantage of the potential to move ahead of, or at least be prepared for, the phenomenon.

E. Choosing Vulnerable Targets

Some modern monetizers have made a practice of targeting those who have little information about the patents at issue and little ability or incentive to do anything but pay up. For example, one technology blog documents a licensing campaign brought by a company called Project Paperless.[110] Project Paperless sent letters to small companies demanding license fees for using common office equipment for scanning and emailing documents. The letter essentially told targets that if they use a scanner or a copier with scanner capabilities to scan a document directly to an employee's email as a PDF, they are infringing Project Paperless's patents and must pay a license fee.[111]

The technology blog found demand letters from Project Paperless and its successors demanding license fees that ranged from $900 to $1,200 a person. The blog noted that the Project Paperless patents have been transferred to a network of at least eight different shell companies, which are sending out numerous demand letters to small businesses from New Hampshire to Minnesota.

Targeting small businesses in this way makes it unlikely that very many of them will fight back, although the technology blog describes one target that did. In general, a small business will know nothing about patents related to scanning. More-

[110] *See* Joe Mullin, *Patent Trolls Want $1,000 – For Using Scanners,* ARS TECHNICA, Jan. 2, 2013, *available at* http://arstechnica.com/tech-policy/2013/01/patent-trolls-want-1000-for-using-scanners/.

[111] *See id.* (reproducing one of the demand letters from a successor in interest to Project Paperless).

over, with the average cost of a patent suit in the range of one to five million dollars, a small business would have little choice but to pay.[112]

The Wall Street Journal reported on a similar scheme by a Chicago-based monetizer, Innovatio IP Ventures.[113] Innovatio has sent 8,000 letters to restaurants, hotels and retailers who use WiFi equipment made by companies such as Cisco. Targeting customers, who are unlikely to know much about WiFi equipment and are less likely to have the incentive to resist a demand, is more appealing than going after Cisco itself, although Cisco has tried to fight back on behalf of its customers.[114]

Although choosing smaller, more vulnerable end-users may be a fruitful method of patent assertion, choosing larger end-users may provide a method of increasing one's revenue from patent assertion, as well. For example, if patent remedies are measured in relation to the revenue from the product sold, and the settlement value is based on the potential costs and risks of the lawsuit, larger businesses are a better target. For example, suppose I am a small supplier of software with annual revenues of $50 million. The potential remedy that a patent holder can obtain by suing me, and thus the value of the threat, will be limited to my revenues. However, suppose I sell my software to major brokerage houses whose total revenue is $500 million a year. The potential threat of a portion of the larger revenue may increase the settlement value. In addition, as with unbundling patent portfolios, multiplying the number of lawsuits multiplies the total amount of costs imposed, also increasing the settlement return. Thus, targeting end-users can be magnify returns more effectively than targeting a single manufacturer.

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[112] *See, e.g.*, Matthew Sag & Kurt Rohde, *Patent Reform and Differential Impact*, 8 MINN. J.L. SCI. & TECH. 1, 32 (2007) (citing AM. INTELLECTUAL PROP. LAW ASS'N, REPORT OF THE ECONOMIC SURVEY 22 (2005)) (noting that an "American Intellectual Property Law Association Economic Survey places the average cost of patent litigation at around $650,000 for a low valued patent and up to $4.5 million for a higher value patent"); Richard S. Gruner, *How High Is Too High?: Reflections on the Sources and Meaning of Claim Construction Reversal Rates at the Federal Circuit*, 43 LOY. L.A. L. REV. 981, 1027 (2010) (citing AM. INTELLECTUAL PROP. LAW ASS'N, REPORT OF THE ECONOMIC SURVEY 25 (2007)) ("The American Intellectual Property Law Association has estimated that the average cost of preparing a patent case to the completion of the discovery phase (but not through the end of the related trial) is approximately $5,000,000 for a high-damages case.")

[113] *See* Ashby Jones, *Cisco Calls Patent Trolls Racketeers,* WALL ST. J. (Nov. 11, 2012) (describing lawsuit filed by Cisco), *available at* http://online.wsj.com/article/SB10001424127887324073504578113082258844080.html. *But see* Jan Wolfe, *Judge Tosses Cisco's RICO Claims Over NPE's Patent Licensing Campaign*, AM. LAW LITIG. DAILY (2013), *available at*, http://www.americanlawyer.com/digestTAL.jsp?id=1202587118199&Judge_Tosses_Ciscos_RICO_Claims_over_NPEs_Patent_Licensing_Campaign&slreturn=20130106010710 (noting dismissal of the RICO claims while allowing the contract claims related to standard essential patents to remain).

[114] *See id.*

A more sophisticated and interesting variation on the theme of "choosing one's targets wisely" can be seen with the patent assertion history of j2 Global. j2 Global began as an electronic fax company, which has now expanded into cloud storage and other services.[115] The company's history of assertion and acquisition is particularly notable.

In 2006 and 2007, four sets of antitrust claims were filed against j2 Global and its patent-holding subsidiary Catch Curve. For purposes of discussing these suits, I will generally refer to j2 Global and its subsidiary as "j2 Global."[116] The antitrust allegations were filed by various private parties, either as initial lawsuits or as counterclaims in defense of patent infringement suits brought by j2 Global.[117]

The four antitrust suits describe activities in the market for Internet fax services for small and home offices. In this market, companies provide their customers with a fax number and server functions so that the customers can send and receive fax messages directly from their computers.[118] According to the allegations, j2 Global acquired a set of patents in 2005 that related to allowing telephone switchboard services to store and receive faxes when the line was busy.[119] At the time the patent applications were filed, faxing took place across telephone lines, and according to one of the complaints, the inventors admitted that they did not conceive of faxing over anything by telephone lines.

Once the company had acquired the patents, j2 Global began extensively asserting the patents against competitors in the Internet fax market through licensing demand letters and patent infringement suits. The behaviors alleged in the antitrust complaints are troubling. For example, one complaint alleged that j2 Global filed its

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[115] For a description of j2 Global's business in 2008, see a company press release at http://investor.j2global.com/releasedetail.cfm?ReleaseID=318866. For a description of its current lines of business, including electronic faxing and cloud storage, see the company's website at http://www.j2global.com/productOverview.

[116] I will also use the j2 Global designation to refer to j2Global's predecessor company.

[117] Three of the sets of the antitrust claims were filed by competitors—Venali, IDG and Go Daddy. The fourth was filed as a class action by a customer of Internet fax services claiming injury through elevated prices and reduced competition in the market. *See* Catch Curve, Inc. v. Venali, Inc., 519 F. Supp. 2d 1028 (C.D. Cal. 2007) (denying motion to dismiss antitrust counterclaims); Go Daddy Group Inc., v. j2 Global Comms., et al, No. 2:06-cv-02474-NVW (D.C. AZ 2006) (initial action for antitrust and declaratory judgment of noninfringement); Integrated Global Concepts, Inc., v. j2 Global Comms., Inc., et al No. 07CV3494 (N.D. Ill. 2007) (initial suit alleging antitrust and other violation); Justin Lynch v. j2 Global Comms., Inc., et al, No. CV-07-4304 DDP-(MANx) (C.D. Cal 2007) (class action).

[118] Integrated Global Concepts, Inc., v. j2 Global, et al., *supra* note 117 (complaint at p. 2) [hereinafter IGC Complaint].

[119] The 2005 acquisition was made by the predecessor company to j2 Global, which is described in this article within the "j2 Global" designation. *See* IGC Complaint, *supra* note 118 (p. 22); *supra* note 116 (for explanation of the collective name "j2 Global").

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patent infringement lawsuit against a competitor to coincide with the competitor's initial public offering, in an effort to reduce the amount of capital that the competitor would be able to raise.[120] Behavior alleged in other suits included 1) disrupting a competitor's joint venture that would have allowed the competitor to offer its product to a hundred million users; 2) intimidating a competitor's customers by threatening to sue them; and 3) filing patent infringement lawsuits against three competitors three weeks after the competitors objected when j2 Global tried to trademark a word that they believed was generic; and 4) refusing to lower the licensing price when a licensing target would only license part of the portfolio (in other words saying, you can license fewer of our patents, but it will cost you the same price).[121] All four of the suits alleged a pattern of aggressive behavior, unsupportable patent interpretations, and intimidation aimed at a broad array of competitors.[122]

The factual record is limited in the j2 Global antitrust cases. Of the four sets of antitrust claims, only *Venali* has proceeded as far as summary judgment, where it was dismissed for failure to overcome the stringent immunity from antitrust liability

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[120]*See* Go Daddy Group Inc., v. j2 Global Comms., et al, No. 2:06-cv-02474-NVW (D.C. AZ 2006) (complaint filed Oct 17, 2006 at p. 14).

[121]*See* Catch Curve, Inc. v. Venali, Inc., 519 F. Supp. 2d 1028 (C.D. CA 2007); Integrated Global Concepts, Inc., v. j2 Global Comms., Inc., et al No. 07CV3494 (N.D. Ill 2007) (complaint filed Oct 17, 2006 at p. 28) (allegations related to trademark dispute); Go Daddy Group Inc., v. j2 Global Comms., et al, No. 2:06-cv-02474-NVW (D.C. AZ 2006) (complaint filed Oct. 17, 2006 at p. 14-15) (describing joint venture disruption and customer threats in relation to Venali);); Justin Lynch v. j2 Global Comms., Inc., et al, No. CV-07-4304 DDP-(MANx) (C.D. CA 2007) (complaint filed Aug. 1, 2007 at p. 13) (describing issues regarding pricing of whole or part of patents in relation to Venali).

[122]VenaliInc's Amended Counterclaim at 4, Catch Curve, Inc. v. Venali, Inc., 519 F. Supp. 2d 1028 (C.D. CA 2007) (No. CV 05-4820 DDP AJW) ("j2 has caused multiple objectively baseless lawsuits to be filed against its competitors to force them to spend precious time, energy and money in order to defend themselves. In the process of waging these bad faith and anticompetitive lawsuits, j2 and Catch Curve intimidate and harass the customers of j2's competitors by notifying them of the patent lawsuits and, in some cases, threatening to include the customers in the lawsuits."); Complaint at 3-4, Integrated Global Concepts, Inc., v. j2 Global Comms., Inc., et al, 2007 WL 1849948 (N.D. Ill 2007) (No. 07CV3494) ("j2 and other defendants have within the past four years waged a fraudulent and vicious campaign to intimidate providers of Internet facsimile services into paying money to j2 and/or Catch Curve for licenses of patents that the defendants know do not cover the competitors' activities but to achieve a settlement which costs less than litigating the issues."); Complaint at 2-3, Go Daddy Group Inc., v. j2 Global Comms., et al, 2006 WL 5125608 (D.C. AZ 2006) (No. 2:06-cv-02474-NVW) ("j2 has sought to remain the dominant provider not by offering a better, more attractive service at a competitive price, but by waging a campaign of acquisition, intimidation, and litigation designed to raise its rivals' costs or prevent them from offering competitive services altogether. . . j2 and Catch Curve have waged a vicious campaign to intimidate providers of internet facsimile servicses to pay j2 and Catch Curve for licenses to groups of patents that do not cover the competitors' activities."); Justin Lynch v. j2 Global Comms., Inc., et al, No. CV-07-4304 DDP-(MANx) (C.D. CA 2007).

that exists for filing lawsuits.[123] However, working from j2Global's own filings and press releases, as well as the few published decisions in the cases, the following information emerges.

First, j2 Global has sued a striking number of its competitors, and many, although not all, of the lawsuits were against relatively small competitors.[124] J2 Global argues that most of the companies offering Internet fax services have modest revenues, which limits the potential damages and makes it economically sensible for the parties to settle for relatively small amounts.[125] Nevertheless, suing small companies has the happy coincidence of ensuring that most will be unable to fight back, given that patent litigation can cost 1-5 million dollars.[126] For a small revenue company, it is difficult to justify that type of expenditure—and even more difficult to find a patent litigator willing to take your case.[127]

In addition to its wide-ranging assertion campaign, j2 Global also has had a remarkably large appetite for acquiring competitors and related companies, both here and abroad. A quick search of press reports as well as j2 Global's releases shows j2 Global acquiring more than 20 companies, including acquisitions in Canada, the UK, Ireland, Europe, Hong Kong, and Australia.[128] Some of the companies acquired

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[123] *See infra* text accompanying notes 171-183 (describing immunity from antitrust liability for petitioning the government).

[124] *See, e.g.*, j2 Global, Inc. v. Integrated Global Concepts, Inc., No. CV 12-03439 DDP, 2012 WL 1551356 (C.D. Cal. Apr. 20, 2012); j2 Global Commc'ns Inc. v. Captaris Inc., No. CV 09-04150 DDP, 2009 WL 4615851 (C.D. Cal. Sept. 15, 2009) (Captaris and Open Tex Corp. named as defendants); j2 Global Commc'ns Inc. v. Protus IP Solutions Inc., No. CV 09-04146 (C.D. Cal. June 11, 2009); MXGO Technologies Incvs 1 & 1 Mail & Media Inc., No. CV 11-00413 (E.D. Tex. Sept. 15, 2011) (GoDaddy named as a defendant); j2 Global Commc'ns Inc. v. EasyTel.Net, No. CV 05-05785 (C.D. Cal. Aug. 9, 2005).

[125] *See* Catch Curve, Inc. v. Venali, Inc., 2008 WL 5152076 (C.D. Cal.) (Catch Curve, Inc. and j2 Global Comms, Inc.'s Reply Memo. of Points & Authorities in Support of Their Motion for Partial Summary Judgment, September 30, 2008 at pp 15-16).

[126] *See, e.g.*, Sag & Rohde, supra note 112; Gruner, supra note 112.

[127] One could speculate, although it would be purely speculation, that the company tried going after larger targets, found it too difficult to get anything out of them, and along the way, learned that going after smaller entities was much more effective.

[128] *See* Venali, http://www.linkedin.com/company/venali (last visited Mar. 23, 2013); j2 Global Acquires Australia-Based Zintel Communications, j2 Global, http://investor.j2global.com/releasedetailRLR.cfm?ReleaseID=653072 (last visited Mar. 23, 2013); j2 Global Acquires Cloud-Based CRM Provider Landslide Technologies, Inc., j2 Global (Feb. 6, 2012), http://investor.j2global.com/releasedetail.cfm?releaseid=646253; j2 Global Acquires Zimo Communications Ltd. and Its Numberstore™ Cloud Voice Service, j2 Global (Feb. 16, 2012), http://investor.j2global.com/releasedetail.cfm?releaseid=649119; j2 Global Acquires Offsite Backup Solutions, LLC, j2 Global (Jan. 23, 2012), http://investor.j2global.com/releasedetail.cfm?releaseid=641499; j2 Global Acquires Data Haven Limited, j2 Global (July 11, 2011), http://investor.j2global.com/releasedetail.cfm?releaseid=590305; j2 Global Inc (JCOM.OQ), http://www.reuters.com/finance/stocks/companyOfficers?symbol=JCOM.OQ (last visited

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were ones that J2 Global had previously sued for patent infringement,[129] raising the question of whether the lawsuits and patent assertions could have played a role in reducing the price, distracting management, or otherwise disadvantaging a target prior to purchase. In particular, j2 Global has been able to acquire some of the companies that have created the greatest headaches for them, including two of the three companies that purportedly objected to j2 Global's trademark filing as well as Venali. (Venali had filed antitrust claims,[130] which were dismissed on summary judgment, and was eventually successful in proving that j2 Global's [AudioFax] patents related only to telephone fax systems and not to Venali's Internet fax services.)[131] The indi-

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Mar. 23, 2013) (j2 Global acquires eFax); j2 Global Acquires UK Voice Provider, Alban Telecom Limited, j2 Global (July 26, 2010), http://investor.j2global.com/releasedetail.cfm?ReleaseID=491961; j2 Global Communications, Inc. Acquires keepITsafe, j2 Global (Oct. 21, 2010), http://investor.j2global.com/releasedetail.cfm?ReleaseID=521177; j2 Global Acquires Unified Messaging and Communications Business of mBox Pty, Ltd., j2 Global (Apr. 1, 2010), http://investor.j2global.com/releasedetail.cfm?ReleaseID=456271; j2 Global Acquires Phone People Holdings Corporation, j2 Global (May 15, 2008), http://investor.j2global.com/releasedetail.cfm?ReleaseID=310517; j2 Global Acquires Onebox Unified Communications Assets From Call Sciences, j2 Global (Aug. 9, 2004), http://investor.j2global.com/releasedetail.cfm?ReleaseID=197185; j2 Global Acquires RapidFax Business from Easylink Services International, j2 Global (Dec. 13, 2007), http://investor.j2global.com/releasedetail.cfm?ReleaseID=281668; j2 Global Acquires Digital Faxing Business of Mediaburst Limited, j2 Global (June 4, 2008), http://investor.j2global.com/releasedetail.cfm?ReleaseID=313749; j2 Global Acquires MailWise and Mijanda, j2 Global (Dec. 1, 2008), http://investor.j2global.com/releasedetail.cfm?ReleaseID=351115; j2 Global Acquires YAC Limited, j2 Global (July 19, 2007), http://investor.j2global.com/releasedetail.cfm?ReleaseID=255199; j2 Global Acquires Data On Call Assets, j2 Global (July 6, 2005), http://investor.j2global.com/releasedetail.cfm?ReleaseID=197161; j2 Global Acquires CallWave Internet Fax Assets, j2 Global (Feb. 25, 2009), http://investor.j2global.com/releasedetail.cfm?ReleaseID=197161; j2 Global Communications To Acquire The Electric Mail Company, Global Growth Partners, http://www.globalgrowthpartners.com/pdf/j2_Global_Communications_To_Acquire_The_Electric_Mail_Company.pdf (last visited Mar. 23, 2013); j2 Global, http://www.answers.com/topic/j2-global-communications (last visited Mar. 23, 2013) (j2 Global acquires Cyberbox of Hong Kong, M4Internet, and Unifax).

[129] *See* j2 Global Commc'ns Inc. v. Venali Inc., No. CV 04-01172 (C.D. Cal. Feb. 20, 2004); j2 Global Commc'ns Inc. v. EasyLinkServs. Int'l Corp., No. CV 08-00263 (E.D. Tex. June 26, 2008); j2 Global Commc'ns Inc. v. Mijanda Inc., No. CV 05-05300 (C.D. Cal. July 21, 2005).

[130] According to assertions in another antitrust case, Venali had argued among other things that j2Global's initial patent assertions represented a veiled acquisition attempt. *See* Justin Lynch v. j2 Global Comms., Inc., et al, No. CV-07-4304 DDP-(MANx) (C.D. Cal. 2007) (complaint filed June 29, 2007 at p. 12).

[131] For the non-precedential Federal Circuit opinion upholding the district court's summary judgment of non-infringement, see Catch Curve, Inc. v. Venali, Inc., 363 F. App'x 19 (Fed. Cir. 2010).

vidual company acquisitions, as well as other asset acquisitions, do not appear to have been significant enough to trigger FTC or DOJ reporting requirements.

A fascinating point in the lawsuits concerns the varying interpretations of some of j2 Global's key patents. Prior to acquiring the telephone switchboard patents, j2 Global was sued by the former owner of those patents. In that litigation, j2 Global denied that the telephone switchboard patents could apply to Internet faxing,[132] which uses entirely different technology and has no issues about needing to store information because the fax line is busy. After settling that lawsuit, j2Global acquired the telephone switchboard patents and began asserting them against competitors on the theory that the patents did, indeed, apply to Internet faxing.

As j2 Global points out in one of its briefs, when one is sued by a patent holder, it is standard practice to deny that the patent applies to one's product.[133] Nevertheless, some court decisions have agreed that the telephone switchboard patents do not apply to Internet faxing. For example, the Federal Circuit in the Venali case agreed with the district court that "for a machine to be a 'fax' machine that sends 'fax' messages, it must use a certain protocol . . . . Otherwise, nothing distinguishes these machines from any other machine used for communication."[134]

The broad reach asserted with the telephone switchboard patents is troubling, as is the type of patent. I have written about such method patent before, in which broad prose language is used to describe the invention, without describing the particular way in which the inventor has solved the problem or limiting what the inventor is claiming as territory.[135]

For example, one of the claims says little more than "a method of delivering a facsimile image" that involves assigning phone numbers on a telephone switchboard to intended recipients, "answering at the call handling facility the received telephone call and interacting using the facsimile protocol" and "directing the fax message to one of the destinations selected from the group consisting of (i) a mailbox . . . and (ii) a fax receiving device."[136] This type of language is standard in certain patent areas, and its broad, nonspecific wording can provide extraordinary reach without much of a knowledge contribution.

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[132] *See* Catch Curve, Inc. v. Venali, Inc., *supra* note 125 (brief at p. 13).

[133] *See id.*

[134] *See* Catch Curve, Inc. v. Venali, Inc., 363 F. App'x 19, 22 (Fed. Cir. 2010).

[135] *See* FELDMAN, *supra* note 19, at 111-13, 130-35. Mark Lemley refers to this as "functional claiming." Mark Lemley, *Software Patents and the Return of Functional Claiming* 7 (Stanford Pub. Law, Working Paper No. 2117302, 2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2117302.

[136] *See* Catch Curve, Inc. v. Venali, Inc., 363 F. App'x 19, 22 (Fed. Cir. 2010), at 3-4 (reproducing one of the claims).

As described above, the district court in *Venali* dismissed Venali's antitrust claims against j2 Global on summary judgment, ruling that Venali could not overcome the stringent immunity from antitrust liability that exists for filing lawsuits. One part of the summary judgment decision is particularly striking. The court felt that although prior suits were not resolved by a court or jury on the merits and no prior court had construed any of the patent claims, the fact that prior cases had ended in settlements should be considered "litigation success."[137] The court reasoned that because patent owners seek an injunction or damages through an infringement suit, the fact that defendants paid licensing fees reflected a successful case.

The problem with this logic is the feedback loop it creates.[138] In the modern world of patent monetization, an aggressive and well-financed patent holder can pressure smaller or less sophisticated targets into settling, simply because the costs of litigation are too burdensome. By choosing one's targets wisely, a savvy monetizer can target vulnerable plaintiffs early on and establish a string of settlments, which can then be used to convince other targets to settle and to convince a court that the entire campaign had merit to begin with.

As for j2 Global, the company appears to have moved on to additional patent portfolios and new horizons. A press report indicates that j2 Global has joined forces with the large patent aggregator, Acacia.[139] According to the report, j2 Global and another company have granted an exclusive license for a set of patents to an Acacia subsidiary, Unified Messaging. The Acacia subsidiary has sued about 100 companies, including Google, Facebook, Twitter, HomeAway and Etsy. Other large entities, such as Travelocity, T-Moblie, Reliant Energy and Bank of America reportedly have already settled with the subsidiary.[140]

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[137] *See* Catch Curve, Inc., v. Venali, Inc., (D.C. CA.) Case No CV 05-04820 DDP AJWx (filed Nov. 3, 2008) at 18; *see also* In Re Terazosin, 335 F. Supp. 2d 1336,1358 n. 13 (noting that "'[T]he court cannot agree with Plaintiffs that a plaintiff who has filed suit and receives the relief sought (e.g., monetary compensation, a change in conduct, etc.) could only have been deemed to have 'won' under PRE if it continued to litigate the case and received a favorable judgment from the court").

[138] *Cf.* James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882, 882 (2007)(arguing that "[s]eeking a license where none is needed is problematic because "the existence (vel non) of licensing markets plays a key role in determining the breadth of rights, [so] these . . . decisions eventually feed back into doctrine, as the licensing itself becomes proof that the entitlement covers the use").

[139] Information in this paragraph was reported in Vicky Garza, *Patent troll targets Home Away,* Austin Business Journal (July 6, 2012), *available at* http://www.bizjournals.com/austin/print-edition/2012/07/06/successful-patent-troll-targets-homeaway.html?page=all.

[140] *See id.*

As noted, it is difficult to know the facts of j2 Global, but the available information indicates the potential for a lucrative and troubling strategy that could be adopted under the current legal regime. Acquire broadly worded patents from a prior era. Choose an emerging market or submarket characterized by smaller players. Assert those patents aggressively using broad interpretations in a way that weakens competition and makes competitors ripe for acquisitions. Ensure that the size of the competitors will make it difficult for them to fight back effectively and for antitrust regulators to focus on any acquisition of a company or portfolio. (In the spirit of modern patenting, I suppose I should patent the description in the paragraph above as a "method of doing business," although it might be obvious in light of prior art—among other problems.)

F. Walking to the Edge of the Line

Several of the examples listed above describe practices in which intellectual property rights holders intimidate potential targets by suggesting, tacitly or explicitly, that they are entitled to rights beyond what they actually have under the law. The following is a similar example from copyright, and it is one that embodies other questionable tactics as well.

The example relates to cognitive testing in medical examinations.[141] For decades, the standard approach for testing a patient's mental status has been to use the Mini-Mental State Examination. The examination is a brief set of questions and challenges to pose for a patient, including "who is the president of the United States" and "count backwards from 100 by sevens." It covers basic math, language and motor skills. The Mini-Mental State Exam was first published in a scholarly journal written by Marshal Folstein, Susan Folstein, and Paul McHugh in 1975.[142]

Part of the value of the test lies in the fact that it has been so widely used. Vast numbers of studies have been conducted with it, a fact that ensures easier cross-referencing and comparison of research data. Medical students can recite it in their sleep. Medical professionals can compare a single patient across many years and

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[141] For a more detailed discussion of the current controversy surrounding the Mini-Mental State Exam and the legal validity of the copyright claims, see Robin Feldman & John Newman, *Copyright at the Bedside: Should We Stop The Spread?*, STAN. TECH. L. REV (forthcoming 2013). S*ee also* John Newman & Robin Feldman, *Copyright and Open Access at the Bedside*, 365 NEW ENG. J.MED. 2449 (Dec. 29, 2011) (describing the problem and encouraging the creation of a cultural norm in the field of medicine, in which medical researchers ensure continued availability of their tests through open source licensing for any copyrights that might exist).

[142] *See* Marshal F. Folstein, Susan Folstein& Paul R. McHugh, *"Mini-mental state": A practical method for grading the cognitive state of patients for the clinician*, 12 J. PSYCHOL. RES. 189, 189-98 (1975).

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many different hospitals and clinical settings because all of the institutions are likely to have used the same test.

All of this began to change in 2000. After decades of widespread use, the authors of the Mini-Mental State Exam created a monetization structure in which an entity named Psychological Assessment Resources (PAR) began asserting copyright against hospitals and physicians.[143] In the wake of PAR's assertion tactics, the Mini-Mental State Exam has disappeared from the latest editions of medical textbooks, pocket guides and clinical toolkits.[144] PAR is not alone in asserting copyright in medical tests, and the phenomenon is spreading in the health care field.

A variety of legal arguments could be made to undermine PAR's assertion of copyright.[145] Hospitals and physicians, however, have been loath to enter a legal battle that would be long, expensive and offers an uncertain outcome. More threatening than monetary damages is the possibility of criminal liability. No matter how rare or unlikely to apply under these circumstances, physicians in particular are spooked by even the slightest and most remote possibility of a criminal charge.

A busy hospital wishing to switch away from using the popular test would have to ensure that no one made a single copy of it—not for a training manual, reminder card, the hospital's website, or to download on any individual computer anywhere in the hospital. And what about if a medical professional in the hospital administered the test, asking the questions one by one? Would that constitute making a copy of the test?

Perhaps the claim with the weakest legal grounding would be any copyright claim based on administering the test verbally to a patient. Copyright covers a variety of ways one might make a copy of a creative work, but what kind of copy could this be? There is no written copy, no videotape, no other recording. The only possible approach would be to argue that using the test is analogous to producing a play or a song. When a physician administers the test, he or she is "performing the work."[146]

Describing the claim in this manner, however, highlights one of the problems with copyright claims for medical testing at all. To the extent that one is claiming to control the test itself, rather than some description explaining the circumstances for using the test or what to do with particular results, one is actually trying to claim a process. Copyright specifically does not cover processes and methods.[147] Thus, claim-

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[143] For a description of the monetization structure, *see* Feldman & Newman, *supra* note 141, at 4.

[144] *Id.*

[145] For a detailed discussion of the validity of the legal claims, *see id.*

[146] *See id.*

[147] 17 U.S.C. § 102(a) provides: "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, con-

ing copyright in this type of medical test is really a backdoor method for trying to get a patent without meeting the rigorous requirements for patentability.[148]

PAR's licensing approach comes as close as possible to the line of requiring license fees for administration of the test, without actually specifying it. In fact, one could be forgiven for assuming that PAR *is* licensing each administration of the test, given the crafty language used.

For example, PAR's licensing policy,[149] which is available on its website, repeatedly refers to "using" the test or "use" of the test. Purchasers are instructed to purchase the number of test protocols needed for their intended purposes. In addition, the website specifies that one must purchase a test manual in addition to purchasing the test, if one plans to use all or part of the test. Most important, PAR will calculate fees due only after interested parties have submitted a permission request. Among many other things, the permission request form asks how many people you will be testing and if you are using this for clinical purposes--in other words, if you are treating patients.[150] Given this licensing approach, it seems likely that PAR's fee calculations are based, at least in part, on how many times one will administer the test orally to a patient. The language on the website would certainly lead many people to think that payment per administration of the test is required.

Other troubling aspects include the timing of the rights assertion. In this case, the authors of the test allowed the public to use the test freely and openly for decades. Intellectual Property rights were only asserted after the test had become fully entrenched in the medical landscape.[151]

One might also note that creating a monetization entity has benefits in addition to protecting the authors from liability and ease of administration. Creating a separate entity insulates the scholars to some extent from the bad publicity of the monetization entity, leaving the sense that is just big, bad PAR making us all pay.

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cept, principal, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."

[148] *See id.*

[149] *Permissions & Licensing*, PAR, http://www4.parinc.com/ProRes/permissions.aspx (last visited Jan. 8, 2013).

[150] *See Permission Request Form*, PAR, http://www4.parinc.com/webuploads/permission_request/Permission_Req_Form_distributed.pdf (last viewed Jan. 8, 2013). The form does also ask how the test will be administered and gives paper/pencil and online/Internet as examples. Thus, PAR could possibly argue that they would only charge for those administrations that involve a full, written copy of the test. The question does not ask for a breakdown, however, between administration orally and administration through written copy, making it unlikely that PAR is differentiating in this way.

[151] For an argument that investment and value creation in the development of de facto standards in this case should weigh against copyright protection, *see* Feldman & Newman, *supra* note 141.

Finally, the Mini-Mental State Exam provides another example of integrating different intellectual property regimes. In the "frequently asked questions" section of the website, PAR explains that under trade secret law, those who use the test are not permitted to release the results of the test to those who are not qualified to review and interpret them.[152] The materials go on to explain that usefulness and validity would be compromised if the materials became available to the general public.

One can certainly understand the authors' concerns that if patients know the various questions and answers by heart, the test will be far less useful for evaluating mental state.[153] Nevertheless, PAR's statement that "PAR's instruments are trade secrets" is somewhat odd. The secrecy requirement in trade secrecy generally measures whether the information gives the owner an advantage over others competitors who do not know it.[154] The fact that patients might not know the test is irrelevant to the inquiry. The appropriate question is whether the test itself is well known by competitors in the medical field. Given how widely the test is known, one might argue that it could not possibly constitute a secret, at least not in the way that secrecy is ordinarily measured for the purposes of trade secret.

Moreover, limiting the release of test data might have other advantages for PAR unrelated to the need to keep patients from being able to "psych out" the test. If results cannot be released without PARs permission to anyone who is not medically trained, then medical researchers cannot publish their results in medical journals, which are generally available to any member of the public willing to subscribe to them or to pay an access fee. In theory, PAR could demand a payment for a license to release the data or could insist that all data must be released through its own publication service, which could charge an access fee. This could provide an additional arena for revenue generation, although one that could have negative implications for the free flow of scientific data.

A reminder of the relationship between different intellectual property regimes provides a good conclusion for this section. As mentioned above, the fluidity among the different intellectual property regimes suggests that any attempt to cabin inappropriate behaviors should encompass all intellectual property regimes. Perhaps the best example of the problem comes from a recent email I received from a practitioner who serves as in-house counsel at a technology company. The company had been paying royalties to use a particular patent. Shortly before the patent was sched-

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[152] *Frequently Asked Questions*, PAR, http://www4.parinc.com/Faqs.aspx (last visited Jan. 8, 2013).

[153] This, of course, is an unavoidable problem for administering the test to medical professionals themselves.

[154] Morlife, Inc. v. Perry, 66 Cal Rptr. 2d 731 (Cal. App.1997); *see also* Am. Paper & Packaging Products, Inc. v. Kirgan, 228 Cal. Rptr. 713 (Cal. App. 2d 1986).

uled to expire, the company received a proposed contract from the patent holder for licensing of trademark rights. The trademark contract was absolutely identical to the patent contract, listing the same property, the same uses, and the same conditions. The sole difference between the two documents was that the word "patent" had been replaced throughout by the word "trademark."[155]

IV. Current Tools are Inadequate

The legal system does have a variety of tools that could be used to address various aspects of the problem of the inappropriate use of intellectual property. Each of the tools, however, is ill suited for the task at hand.

A. Tools Within Intellectual Property

The intellectual property system itself has tools that, in theory, might address inappropriate use. These include patent misuse, copyright misuse, and the doctrine of inequitable conduct before the Patent Office, each of which will be discussed below.

Patent misuse traditionally has been defined as an impermissible attempt to expand the time or scope of the patent. Since 1992, the Federal Circuit also has required that the attempted expansion must have "anticompetitive effect."[156]

Patent misuse, however, has many drawbacks as a solution to the types of problems described above. It is an affirmative defense only and cannot be raised in circumstances other than to defend against a claim of infringement. In addition, the sole remedy available for patent misuse is a draconian one. If a patent holder is found to have misused a patent, the patent becomes unenforceable against anyone, until the effects of the misuse have dissipated. To my knowledge, no court has ever had the opportunity to interpret what it means for the effects to have dissipated.

Perhaps because of the draconian nature of the remedy, the Federal Circuit simply refuses to apply patent misuse. One would have to search quite vigorously to

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[155] For purely anecdotal purposes, I note that recent PLI programs in 2012 and 2013 included a number of segments on copyright and trademark monetization. *See IP Monetization 2012: Maximizing the Value of Your IP Assets*, PRACTISING LAW INSTITUTE (May 10, 2012), http://www.pli.edu/Content/OnDemand/IP_Monetization_2012_Maximize_the_Value_of/_/N-4nZ1z1330y?fromsearch=false&ID=142947.

[156] For a detailed history of Patent Misuse and variations between the Federal Circuit interpretation and prior precedent, *see* Robin Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse,* 55 HASTINGS L.J. 399, 415-31 (2003).

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find any judgment of patent misuse that the Federal Circuit has upheld in its 30-year history.

Copyright has its own misuse doctrine, but it is not much more robust than patent misuse. The doctrine was not used successfully until the 1990 *Lasercomb* case.[157] Since that time, copyright misuse has been used only sporadically, with most of the cases taking place in the 1990s and in the context of software.[158]

One of the few, and most interesting, discussions of the doctrine of copyright misuse in the twenty-first century appears in the Seventh Circuit's 2003 *WIREdata*opinion, written by Judge Posner.[159] Commenting on the doctrine of copyright misuse, Judge Posner noted the following: "hoping to force a settlement or even achieve an outright victory over an opponent that may lack the resources or the legal sophistication to resist effectively, is an abuse of process."[160] Other courts, however, have not taken up the analysis offered by Judge Posner.

Patent law also has a doctrine of inequitable conduct before the Patent Office. After a less than stellar history, in which the defense appeared almost *de rigeur*in all cases, and the doctrine's primary use appeared to be in bashing one's opponent, Congress severely curtailed the doctrine in 2011.[161] To some extent, the Federal Circuit had already beaten them to the punch, significantly limiting the doctrine in the *en banc Therasense* case earlier that year.[162]

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[157]Lasercomb America, Inc. v. Reynolds, 911 F.2d 970, 972 (4th Cir. 1990); Kathryn Judge, Note, *Rethinking Copyright Misuse,* 57 STAN. L. REV. 901, 902 (2004).

[158] For extended analysis of copyright misuse, *see* Neal Hartzog, *Gaining Momentum: A Review of Recent Developments Surrounding the Expansion of the CopyrightMisuse Doctrine and Analysis of the Doctrine in its Current Form*, 10 MICH. TELECOMM. & TECH. L. REV. 371 (2004); Brett Frischmann, *The Evolving Common Law Doctrine of Copyright Misuse*, 15 BERKELEY TECH. L.J. 865 (2000); Judge, *supra* note 157; *see also* 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.09[A] (2003)(noting that *Lasercomb* remains the exceptional case).

[159]*See* Assessment Tech. of WI, LLC, v. WIRE data, 350 F.3d 640 (7th Cir. 2003).

[160]*See id*. at 647.

[161] 35 U.S.C. § 282(a)(3) provides that the failure to disclose the best mode shall no longer be a basis, in patent validity or infringement proceedings, on which any claim of a patent may be cancelled or held invalid or otherwise unenforceable. Other major changes in the AIA include moving to a first-to-file system from first-to-invent. In addition, prior user rights can now act as a defense to infringement liability. For discussion of problems with Inequitable conduct prior to 2011, see Christian E. Mammen, *Controlling the "Plague": Reforming the Doctrine of Inequitable Conduct*, 24 BERKELEY TECH. L.J. 1329 (2009); *see also* Robin Feldman, *The Role of the Subconscious in Intellectual Property Law,* 2 HASTINGS SCI. & TECH. L.J. 2 (2010).

[162] Therasense, Inc. v. Becton, Dickinson &Co., 649 F.3d 1276 (Fed.Cir. 2011) (citing Mammen, *supra* note161).

B. Tools Outside of Intellectual Property

Other legal tools, outside of intellectual property law, conceivably could be pressed into service to address inappropriate uses—particularly if they were adjusted. Even in combination, however, these doctrines would leave much of the modern behavior unaddressed.

1. Laches & Implied Contract

The equitable doctrine of laches might be available in response to certain forms of questionable behavior, particularly in copyright. In a claim for patent infringement, laches is an equitable defense that the patentee did not enforce its patent rights in a timely manner.[163] As Learned Hand noted in 1916, "it is inequitable for the owner of a copyright, with full notice of an intended infringement, to stand inactive . . . and to intervene only when his speculation has proved a success."[164]

The Fourth Circuit, however, has held that equitable rules such as laches, which are concerned with time delays, cannot be applied to bar claims for which a statute has dictated the prescribed time period for enforcement of rights. In other words, if Congress has decided that copyright holders may enforce their rights for the life of the author plus 70 years, courts cannot decide that any claims brought within that stated period are untimely.[165]

In a decision promulgated the same year as the Fourth Circuit's opinion, however, the Ninth Circuit reached the opposite conclusion. The copyright holder had failed for 36 years to complain of the defendant's exploitation of the James Bond character, and the Ninth Circuit found that laches barred the suit.[166] The Supreme Court has yet to speak on the issue, however, and the status of the doctrine in these circumstances remains unclear.

The doctrine of implied contract also might be available as a defense in certain cases of copyright trolling behavior. For example, in 2006, a federal district court in Nevada ruled in the *Field v. Google* case that a website could not sue Google for

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[163] BLACK'S LAW DICTIONARY 953 (9th ed. 2009) (defining laches as, "[u]nreasonable delay in pursuing a right or claim . . . in a way that prejudices the party against whom relief is sought.").

[164] Haas v. Leo Feist, 234 F. 105, 108 (S.D.N.Y. 1916); *see also* Universal Pictures Co. v. Harold Lloyd Corp., 162 F.2d 354 (9th Cir. 1947); Blackburn v. Southern Cal. Gas Co., 14 F. Supp. 553 (S.D. Cal. 1936).

[165] *See* Lyons Partnership v.Morris Costumes, Inc., 243 F.3d 789, 797 (4th Cir. 2001).

[166] *See* Danjaq LLC v. Sony Corp., 263 F.3d 942 (9th Cir. 2001); *see also* NIMMER, *supra* note 158, at § 12.06[1].

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copyright infringement stemming from the fact that Google caches[167] the website as part of its search engine function.[168] The court cited a Southern District of New York opinion finding that a copyright owner's knowledge of the accused infringer's actions coupled with the owner's silence constituted an implied license.[169] *Field v. Google,* however, expands the doctrine of implied license well beyond any decisions the relevant circuit court has made in this area. In finding implied copyright license, the Ninth Circuit generally has relied on facts involving a prior relationship between the parties and the implications of the interactions of the parties. It is unclear whether the *Field* approach will be upheld in the Ninth circuit, or other circuits. It is also possible that the broad nature of the doctrine could create as many problems as it solves.[170]

2. Antitrust and Sham Litigation

One might imagine that the answer to many of the modern intellectual property shenanigans would lie in the notion of preventing parties from abusing the court system. After all, the heart of at least some of these schemes involves threatening or bringing less than meritorious lawsuits to damage or harass competitors. Antitrust actions based on abusive use of the legal system, however, are unlikely to provide a fruitful path unless the Supreme Court is willing to significantly adjust the legal precedents in this arena.[171]

The problem begins with the Noerr-Pennington doctrine, which protects the rights of citizens to petition the government without fear of antitrust liability.[172] The doctrine originally developed to protect attempts to persuade the legislative branch to adopt a law, or the executive branch to enforce a law, in a way that would have an anticompetitive effect.[173] Over time, the doctrine has expanded to protect the right to petition the courts.[174]

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[167] When Google makes and analyzes a copy of each webpage that it finds, and then stores the code in a temporary repository one describes this as "caching" the page.

[168] Field v. Google, Inc., 412 F.Supp.2d 1106 (D. Nev. 2006).

[169] *See* Keane Dealer Servs., Inc. v. Harts, 968 F.Supp. 944, 947 (S.D.N.Y.1997).

[170] *See* Liam Knepprath-Malone, Examining the Dichotomy in Implied License Law in the Ninth Circuit (2012) (unpublished manuscript)(on file with author) (arguing, among other things that applying *Field* outside of the internet arena would be problematic).

[171] *See* FELDMAN, *supra* note 19, at 166-69 (providing a detailed description of problems with the doctrines in sham litigation and antitrust as they intersect with patent law).

[172] Eastern R.R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961).

[173] *See id.; see also* United Mine Workers v. Pennington, 381 U.S. 657 (1965).

[174] *See* Cal. Motor Transp. Co. v. Trucking Unlimited, 404 U.S. 510 (1972).

There is an exception to the Noerr-Pennington doctrine for sham litigations. The sham litigation doctrine attempts to prevent parties from using the governmental process itself as an anticompetitive weapon.[175] The problem for intellectual property cases involves the elements that must be established to demonstrate sham litigation. Specifically, in the 1993 *Professional Real Estate* case, the Supreme Court held that in order to show that legal actions constitute sham litigation, those actions must be both 1) objectively baseless, in the sense that no reasonable litigant could realistically expect success on the merits, and 2) subjectively baseless such that the lawsuit conceals an attempt to use administrative or judicial processes to interfere with a competitor.[176]

A court is allowed to examine the subjective portion of the evidence only if the court first concludes that no reasonable litigant could have expected to succeed.[177] Given the uncertainties in intellectual property law, litigants can almost always establish some possibility that one might succeed—at least enough to avoid a finding that the filing was entirely baseless.

A few courts have suggested that different approaches may be available when parties file a multiplicity of lawsuits.[178] In some cases, the number of suits coupled with other evidence may suggest a potential abuse of the legal process. In addition, for many patent assertion lawsuits, the goal is not the outcome of the litigation; rather, the goal is to impose the costs of the litigation process on the product company. Putting the two notions together, a multiplicity of suits or other types of patent assertion behavior could indicate that a patent holder is motivated by something other than the outcome of the lawsuits. This type of result should be antithetical to

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[175] *See* City of Columbia v. Omni Outdoor Advertising, 499 U.S. 380 (1991).

[176] *See* Prof'l Real Estate Investors v. Columbia Pictures Indus., 508 U.S. 49, 60-61(1993); *see also id.*at 58 (characterizing the *Cal. Motor Transport* Court's discussion of the difficulty in evaluating whether a claim is baseless as endorsing an objective standard); Cal. Motor Transp. v. Trucking Unlimited, 404 U.S. at 513.

[177] *See* Prof'l Real Estate v. Columbia, 508 U.S. at 60 ("First, the lawsuit must be objectively baseless in the sense that no reasonable litigant could realistically expect success on the merits.").

[178] *See* USS-POSCO Indus. v. Contra Costa County Bldg. & Constr. Trades Council, 31 F.3d 810–811 (9th Cir. 1994) (citing Cal. Motor Transport. v. Trucking Unlimited, 404 U.S. 508); *see also See* Primetime 24 Joint Venture v. NBC, 219 F.3d 100–101 (2d Cir. 2000); Livingston Downs Racing Ass'n v. Jefferson Downs Corp., 192 F. Supp. 2d 538–539 (M.D. La. 2001); *cf.* Ernest v. Hahn, Inc., v. Codding, 615 F. 2d 830 (9th Cir. 1980). The Ninth Circuit hedged its bets more recently, however, in the 2009 case of *Kaiser v. Abbott Labs. See* Kaiser Found. Health Plan Inc. v. Abbott Labs. Inc., 552 F.3d 1033 (9th Cir. 2009). In addition, the Federal Circuit has signaled that it does not agree with the Ninth Circuit's approach. *See* Nobelpharma AB v. Implant Innovations, 141 F.3d 1059 (Fed. Cir. 1998).

proper use of the legal system, and could form the basis of a method of establishing sham litigation. For such an approach to be successful, however, courts would have to be willing to allow the doctrine of sham litigation to evolve in light of the modern realities of patent assertion.

Even without the sham litigation doctrine, however, antitrust may provide other avenues. Private or public antitrust authorities may be able to bring actions based on anticompetitive actions other than filing lawsuits. Effective antitrust enforcement in this area will require a shift in the way that we define relevant markets.[179] For example, antitrust authorities examine three different kinds of markets—markets for goods, technology markets, and innovation markets.[180] In examining markets for goods, authorities will consider the particular goods and their substitutes. Technology markets relate to circumstances in which intellectual property is marketed separate from any underlying products in which it is used. To analyze technology markets, courts will look at particular intellectual property and its close substitutes. Finally, innovation markets consist of the research and development directed at particular new or improved goods. Here, authorities are watching to ensure that existing producers do not strangle potentially competitive technologies in their infancy.

Understanding the full extent of some of the modern intellectual property schemes, however, requires an analysis of a different type of market. One must look at the market for monetization of patents or for monetization of copyrights as their own markets, in order to properly analyze the impact of certain modern behaviors.[181] One cannot possibly understand the impact of behavior by mass aggregators, for example, without thinking of the market for patent monetization as a whole.

In particular, in looking for potential anticompetitive effects of patent monetization, one must look on three different levels. First, one must consider ways in which a patent monetization entity with market power in a particular intellectual property market may be using, obtaining or maintaining that power in an anticompetitive manner. Second, as described above, one must worry about ways in which patent monetization activities could have anticompetitive effects in the market for patent monetization itself. In both of these dimensions, it is disconcerting to see product competitors forming alliances so frequently and so freely in a patent moneti-

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[179] *See* Ewing &Feldman, *supra* note22, at 35-37 (discussing at length the changes necessary for effective antitrust analysis under these circumstances).

[180] U.S. DEPT. OF JUSTICE AND FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 8-11 (1995), http://www.justice.gov/atr/public/guidelines/0558.htm [hereinafter ANTITRUST LICENSING].

[181] *See* Ewing & Feldman, *supra* note 22, at 35-37 (describing at length the necessity for analyzing monetization markets.)

zation capacity. Large monetizers and aggregators have the potential to operate as the "hub" in a "hub-and-spokes" conspiracy, in which a centralizing entity can orchestrate agreement among horizontal competitors. There may be shifting alliances as well, in which some of the spokes use the hub to combine against other spokes. It is hard to imagine that competitor combinations of this kind, with the opportunities they provide for collusion, can be good for consumers. This is particularly problematic in markets characterized by intense innovation. Those who are currently in the market are likely to have a preference for reducing next-generation substitutes and for bashing those who threaten to develop them.

Finally, one has to worry about behavior in the market for patent monetization that could affect the underlying individual Intellectual Property markets, even in the absence of actual power in any of those individual markets.[182] In other words, in the modern world of patent monetization, one may not need to have power in a particular IP market to affect prices in that market. It is an odd circumstance, but entirely possible in this new market.

Consider the following: one no longer needs to have a basket of automobile patents big enough to constitute market power in the auto market in order to affect the auto market. Perhaps all one would need is a small number of patents in that market and a reputation for tough tactics. If one happens to have a large grab bag of assorted patents, so much the better. After 50 patents, most licensing targets will cease to examine the patents on their individual merits.

For example, suppose I have a patent related to the banking industry. My claim that this banking patent actually applies to your automobile production may be pretty farfetched. If I have enough farfetched claims to cause trouble for you, however, and I am threatening to throw them at you one after another, and I have a reputation for playing hardball, that may be enough for you to pay what I ask. It may also be enough for every other automobile manufacturer to pay what I ask, as well. Under those circumstances, it is possible that I could affect the market for automobiles without having much to speak of in the way of automobile patents. If prices rise throughout an industry, beyond a reasonable return on investment, this creates a loss of consumer welfare. In short, this type of rent-seeking behavior, in which patent holders seek a return above the economic value of their patents, can have an extensive effect on consumer prices and consumer welfare.

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[182] This discussion in this paragraph and the hypothetical in the following paragraph were first presented in Robin Feldman, *Comments on Notice of Roundtable on Proposed Requirements for Recordation of Real-Party-in-Interest Information Throughout Application Pendency and Patent Term*, U.S. PATENT & TRADEMARK OFFICE (Jan. 24, 2012), http://www.uspto.gov/patents/law/comments/rpi_information.jsp.

Most important, none of these levels of antitrust analysis is possible unless public or private antitrust actors have the information necessary to identify and trace anticompetitive behavior. Under current circumstances, intellectual property rights holders are able to use the magnfied power from their rights to bargain for invisibility and silence. This problem highlights the final limitation in depending on antitrust action to cabin the inappropriate use of intellectual property. Antitrust analysis is concerned with market prices. It is not designed to address concerns over actions in which intellectual property rights are being used for purposes such as hiding embarrassing or illegal conduct, avoiding obligations, or pressuring others into surrendering rights. These are not necessarily market power concerns, and yet the behaviors still may be damaging to society.

In the same vein, antitrust aims its guns at the big players who can throw their weight around in a particular market. Problems in modern intellectual property interactions, however, extend far beyond this group. Tremendous uncertainty, the costs of resolving that uncertainty, and outsized remedies allow intellectual property rights holders to magnify the power of their intellectual property. This is a problem for the proper functioning of the intellectual property system, but not necessarily one that antitrust law is designed to consider.

3. Market Responses

In addition to the potential doctrines that exist for addressing the inappropriate use of intellectual property, there also have been sporadic market attempts to respond. Some companies have tried to address these problems by pledging to use their intellectual property responsibly. For example, the popular and influential company Twitter recently announced that it is amending the agreements it signs with employees who create inventions for the company. Under the amendment, the company agrees to use patent rights flowing from those inventions only defensively--that is, to protect itself against hostile action-and any offensive use of those patents will require the inventor's consent.[183]

Twitter's approach is particularly interesting because it creates a certain level of binding obligation, beyond a mere pledge. Pledges, of course can be withdrawn and corporate policies shifted. For example, in 2005, Nokia expressed support for the value of an open source approach in telecommunications patents and pledged not to

[183] *See* Fred Wilson, *The Twitter Patent Hack*, AVC (Apr. 18, 2012), http://www.avc.com/a_vc/2012/04/the-twitter-patent-hack.html.

assert patents against the open source Linux Kernal.[184] That policy changed, however, when the company entered into a partnership with Microsoft and transferred more than a thousand key patents to a known patent troll.[185]

One could also argue that the emergence of patent mass aggregators demonstrates a market effort to manage intellectual property patents. After all, these organizations, on one level, give operating companies a way to fend off patent litigation.

Mass aggregators are creating risks and harms of their own, however. When a patent troll recently sued a mass aggregator alleging antitrust violations,[186] it was hard to decide which side to cheer for, although easy to see that there is little for consumers to cheer about, no matter who wins.

In sum, the market approaches are likely to be no more successful at managing the problem of inappropriate use of intellectual property than the scattered legal doctrines already in existence. Although antitrust holds some promise—assuming that the doctrines can be adjusted and that full information can be secured—none of the approaches, individually or in combination, can fully address the scope of the problem.

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[184] *See Legally Binding Commitment Not to Assert Nokia Patents against the Linux Kernel*, *Statements*, NOKIA, http://web.archive.org/web/20060213045608/http:/www.nokia.com/iprstatements (last visited Jan. 8, 2013); *Form 20(f)*, SEC (Dec. 31, 2005), http://www.sec.gov/Archives/edgar/data/924613/000104746906002736/a2167693z20-f.htm; *see also*[NOKIA, OUR INSTITUTIONAL STRATEGY, (Dec. 4, 2009) (*available at http://i.nokia.com/blob/view/-/164864/data/3/-/*)(noting that open source approach is key to engaging a broad community -- developers, operators, chipset vendors, OEMs etc. We believe that the larger the ecosystem, the greater the innovation and thus the richer the user experience).

[185] *See* Press Release, MOSAID, MOSAID Updates Shareholders on Special Committee Process, Addresses Wi-LAN Mischaracterizations (Sept. 12, 2011), http://www.mosaid.com/corporate/news-events/releases-2011/110912.php; *see also* Ben Dummett, *Nokia Sells 2,000 Patents: Mosaid Technologies Will Share Revenue Wrung From Wireless Know-How*, WALL ST. J. (Sept. 2, 2011), http://online.wsj.com/article/SB10001424053111904716604576544441441198816.html. For press commentary critical of the move, *see Mosaid v. Red Hat – Before You File a Complaint, Learn the Law (And the Facts),* GROKLAW (Jan. 10, 2012), http://www.groklaw.net/articlebasic.php?story=2012010910240033(complaining that "the patent troll [MOSAID Technologies] has now climbed into bed with Microsoft and Nolia to try and cause more havoc with Android);*see also* Josh Koshman, *Patently False: Critics calling our deal by Microssoft and Nokia over antitrust alarms*, NY POST (Sept. 15, 2011), http://www.nypost.com/p/news/business/patently_false_E4uHQUFC5XLDMmKgM7wb8K; *see also* Dr. Roy Schestowitz, *MOSAID Acquires 2,000 Nokia Wireless Patents*, TECHRIGHTS (Nov. 18, 2011), http://techrights.org/2011/11/18/b-and-n-vs-mosaid/.

[186] *See* Nick McCann, *Antitrust Battle Against 'Patent Trolls'*, COURTHOUSE NEWS SERVICE (Mar. 9, 2012), http://www.courthousenews.com/2012/03/09/44560.htm.

V. The Doctrine of Inappropriate Use of Intellectual Property

There are many ways in which one can appropriately bargain with intellectual property and many types of uses that are perfectly reasonable. Granting intellectual property rights without allowing an opportunity for a decent return would be a self-defeating prospect. Nevertheless, there are certain things one should not be able to bargain for with intellectual property rights. Whether it is a hit on one's mother-in-law or a missile attack on a competitor's main customer, it is perfectly obvious that some things are beyond the pale.

I would suggest that society should draw the line far short of criminal activity. Using intellectual property rights for behavior such as silencing public criticism, hiding embarrassing or illegal conduct, avoiding obligations, pressuring others into surrendering rights, harassing competitors, and engaging in anticompetitive schemes should also be outside the bounds.

The Supreme Court itself has recently suggested that the economic rights embodied in intellectual property are limited, implying that intellectual property rights holders are not necessarily entitled to any economic bargain they can strike. Although the decision was in the context of the doctrine of exhaustion, the Court pointedly noted the following: "the Constitution's language nowhere suggests that its limited exclusive right should include a right to divide markets or a concomitant right to charge different purchasers different prices for the same book, say to increase or to maximize gain."[187] This decision follows a series of cases in recent years in which the Supreme Court has steadily narrowed intellectual property rights.[188]

In proposing a doctrine of inappropriate use of intellectual property, I am not suggesting that such behavior should result in a cancellation of intellectual property rights. The draconian nature of patent misuse, in which one's patent rights become entirely unenforceable, may have contributed to the reluctance of courts to actually use the doctrine. A more flexible and nuanced approach is required, so that courts can respond with the same level of sophistication as those who would engage in intellectual property wrongs.

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[187] *See* Kirtsaeng v. John Wiley & Sons, Inc., 133 S. Ct. 1351, 1371 (2013).

[188] *See, e.g.*, Assoc. for Molecular Pathology v. Myriad Genetics, Inc., 106 U.S.P.Q.2d 1972 (U.S. 2013); Mayo Collaborative Servs. v. Prometheus Labs., Inc.,132 S. Ct. 1289 (2012); Bilski v. Kappos, 130 S. Ct. 3218 (2010); Quanta Computer, Inc. v. LG Elecs., Inc. 553 U.S. 617 (2008); KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398 (2007); MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118 (2007); eBay Inc. v. Merc Exchange, LLC, 547 U.S. 388 (2006); Ill. Tool Works Inc. v. Indep. Ink, Inc., 547 U.S. 28 (2006); Merck KGaA v. Integra Lifesciences I, Ltd., 545 U.S. 193 (2005); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722 (2002).

A. The Contours of the Doctrine

To some extent, one could analogize the approach to a combination of unclean hands and *in pari delicto*. (Although various courts and commentators mistakenly equate the two, they are distinguishable.)[189] The doctrine of unclean hands traditionally springs from the notion that the court will not sully its robes by becoming involved in the dispute. Thus, under the doctrine of unclean hands, a court will refuse to hear a party's request for equity, if the target of the lawsuit can establish that the party who sued has, itself, behaved inequitably.[190] Using unclean hands as an anology, judges in some circumstances of inappropriate use of intellectual property could follow the example of Judge Posner and reject the lawsuit altogether,[191] on the grounds that the court need not become an additional tool in the parties' arsenal.

In other circumstances, however, the court may wish to respond in a manner that would require actually hearing the case. For example, in circumstances in which intellectual property rights are being used to avoid obligations or force another party to remain silent, the court might wish to respond by taking the case and nullifying the silence provision or requiring the intellectual property holder to satisfy the obligation it has sought to avoid. This type of approach would more closely resemble the doctrine of *in pari delicto*, in which the court may consider the improper behavior of the parties when crafting a remedy.

Such an approach would also avoid the necessity of trying to determine a primary or dominant objective when a party's behavior appears to have multiple motivations. Where the behavior has both a legitimate aim and the happy coincidence of allowing a party to avoid its obligations, for example, a court may choose to leave the appropriate results of the behavior and simply require continued satisfaction of obligations.

The challenge, of course, will be defining the category of inappropriate behavior in a manner that is sufficiently robust that the doctrine does not become essentially another weapon in the arsenal that parties launch against each other. I have no illusions that this will be an easy process. Nevertheless, one should begin with a simple acknowledgement that a doctrine of inappropriate use of intellectual property should be developed. That, in itself, would be a significant and useful development,

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[189] For an enlightening and extensive explanation of the difference between the doctrine of unclean hands, the doctrine of *in pari delicto* and the failure of courts to appreciate the difference, see DAN B. DOBBS, DOBBS LAWS OF REMEDIES: DAMAGES—EQUITY—RESTITUTION,Vol. 3, 573-78(West, 2d ed. 1993).

[190] *See id.*

[191] *See supra* text accompanying notes 16 - 17.

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signaling to intellectual property rights holders that their behavior will be more closely scrutinized than in the past.

From that point, one could begin by identifying behavior that is perfectly appropriate. For example, two competitors who ask the courts to resolve the boundaries of where each of their rights lie, ideally are engaging in a perfectly reasonable use of the court's time. At the other extreme resides behavior that is clearly inappropriate. This category includes a number of the behaviors described here, such as providing the means for a third party to attack a competitor's customers in order to raise the cost of a competing product, using intellectual property to buy silence, or transferring rights to avoid obligations.

The process of defining the boundaries of appropriate intellectual property behavior will have to be as flexible, dynamic and creative as the parties it governs. In this process, various doctrines from other areas of law can provide useful analogies. For example, the general structure of antitrust inquiry, in which certain behaviors are problematic *per se* and all others receive a more in depth analysis, would provide a useful model. The doctrine of inappropriate use of intellectual property could follow in a similar vein, with some of the behaviors described in this article establishing the initial *per se* categories.

As the boundaries of inappropriate behavior are defined, the doctrine of inappropriate use could give judges the flexibility to craft remedies tailored to the wrong that has been inflicted. Consider behavior in which intellectual property rights holders have used their rights to require nondisclosure requirements that reach more broadly than confidential information. In those circumstances, a court could simply invalidate the gag. The inquiry required would be no more onerous that what courts undertake in numerous circumstances. Judges are frequently called upon to decide what information must be kept confidential and away from the public's eye in lawsuits, particularly where parties claim that the information would reveal trade secrets or other competitive information. The same type of inquiry could determine whether the contours of an intellectual property demand for nondisclosure constitutes an inappropriate use of intellectual property.

Similarly, in cases in which parties have transferred their intellectual property rights to third parties to insulate themselves from counterclaims or liability, the court could choose to ignore the structure of the scheme created. This would be somewhat analogous to the step transaction doctrine in tax law, in which the IRS will collapse the steps of a transaction when it is structured to include inappropriate steps

that allow the taxpayer to evade its tax obligations.[192] One could also analogize the approach to the corporate law doctrine of piercing the corporate veil, when owners of a corporate entity are held directly responsible for the actions of the corporation.[193] In a similar vein, the court could choose to make the original intellectual property rights holder remain subject to counterclaims or responsible for damages, for example, closing the distance that the intellectual property rights holder has tried to create for itself. Moreover, if intellectual property rights holders are able to shed their obligations to standards bodies through creative transfers, a court could restore those obligations.

As the Supreme Court noted in the *Medimmune* case, one should not have to wait so long in the process as to risk one's business in order to be able to challenge the behavior.[194] With this admonition in mind, the doctrine of inappropriate use of intellectual property should be an affirmative doctrine as well as a defensive one. In other words, a party should be able to bring an action for inappropriate use against an intellectual property rights holder, rather than having to wait to be sued for infringement in order to raise it as a defense.[195] By allowing an affirmative claim, behavior that occurs well before any lawsuit has been initiated would more likely be subject to scrutiny.

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[192] The Step Transaction Doctrine provides that steps may be collapsed together if it is determined that the steps are part of an overall plan by the taxpayer. The doctrine ensures that a taxpayer may not avoid the consequences of related steps by separating them into smaller steps or a more circuitous route. WEST'S LEGAL FORMS, BUSINESS ORGS. DIV. VII § 59.31 (3d ed. 2012); *see also* DOBBS, *supra* note 189, at 567 (discussing cases in which a court refused to grant restitution to a party who made a transfers to avoid creditors and was then defrauded by the person to whom the property had been transferred when the person refused to transfer it back).

[193] The doctrine of piercing the corporate veil is an exception to the rule that protects shareholders from liability for the debts of the corporation in which they hold shares. The following provides an excellent summary of the doctrine of piercing the coroporate veil:

> This exception, known as the "piercing the veil" doctrine, has long been a rule, equitable in nature, applied by American courts to fasten liability on shareholders of corporations of varying size and character for corporate debts of all kinds. The "veil" of the "corporate fiction," or the "artificial personality" of the corporation, is "pierced," and the individual or corporate shareholder exposed to personal or corporate liability, as the case may be, when a court determines that the debt in question *is not really a debt of the corporation,* but ought, in fairness, *to be viewed as a debt of the individual or corporate shareholder or shareholders.*

Stephen B. Presser, PIERCING THE CORPORATE VEIL § 1:1 (2013).

[194] *See* Medimmune Inc. v. Genentech Inc., 549 U.S. 118 (2007) (holding that a licensee does not have to stop paying royalties and repudiate the license, subjecting itself to liability for damages, in order to challenge a patent's validity).

[195] In contrast, as described above, patent misuse is a defensive doctrine only which can form the basis of an affirmative lawsuit, outside the confines of a declaratory judgment suit. *See supra* text accompanying notes 156 - 157.

Although the remedial measures above concern responses other than damages, a fully robust doctrine should include a damage remedy. Where the inappropriate actions of an intellectual property rights holder causes damage to an individual or an entity, damages should be available. Thus, for example, when intellectual property rights holders engage in litigation schemes that weaken an entity's share price before an IPO or a merger, they could be asked to pay for damages inflicted, as well as enjoined from engaging in the schemes.

B. Courts or Legislatures?

The flexibility required for responding appropriately to inappropriate uses of intellectual property suggests that the courts or regulatory bodies would constitute more effective vehicles than legislatures. If nothing less, the 2011 patent reform legislation—which took many years to develop, resulted in a collection of tinkering alterations, and satisfied very few people—should provide a cautionary tale.

Certain pieces, nevertheless, could require legislative action. For example, if the Fourth Circuit prevails and the Supreme Court confirms that courts lack the power to bar claims that fall within a statutorily directed time frame, for example, legislation may be necessary to accomplish some of the aims outlined above. Even with such a limitation, however, much could and should be accomplished without the need for major legislative action.

In the realm of major legislative action, a number of legislative proposals have been suggested or introduced in recent months. Important aspects of these proposals include instituting sunshine rules to show who owns patents and where the money is flowing; expanding opportunities for review of broad and questionable patents; protecting end-users; tightening the standards for granting new patents; and altering the rules that allow patent trolls to engage in "hide-and-seek" demands—in which trolls can impose costs on product companies without having to explain the basis for what they are claiming. In the short term, Congress and the Patent & Trademark Office can and should take immediate steps such as these to stem some of the most obvious abuses. Solving the problem, not just nibbling around the edges, will take both long-term and short-term action, including establishing a system that can sufficiently address the shifting landscape. Thus, I am not suggesting that the doctrine of inappropriate use of intellectual property should be the exclusive approach to solving problems in the realm of intellectual property magnification and monetization. Nevertheless, a nimble and flexible equitable doctrine would be an important part of any comprehensive approach.

In addition to the short-term actions that can be undertaken, crafting long-term and comprehensive solutions, as well as exploring the contours of a proper doctrine of inappropriate use of intellectual property, will require a great amount of in-

formation. How do we know what will be effective for fixing the problems when so much of the behavior is hidden? We cannot solve what we cannot see. The following section describes the problem and how to address it.

VI. The Shape of the Iceberg

Mounting anecdotal evidence points to the looming problems all companies are facing as a result of the shift to intellectual property monetization, the dangers of magnification, and the troubling behaviors emerging as new markets develop. Reliable empirical data, however, is difficult to come by. Some evidence is available related to the rapid rise in the percentage of patent litigation filed by patent monetization entities. For example, a recent study showed that the percentage of patent infringement lawsuits filed by patent monetization entities has risen from 22% to almost 40% over the five years from 2007-2011.[196] Other studies have examined different aspects of monetization behavior in patent litigation as a whole or in specific industry segments.[197]

Anecdotal evidence suggests, however, that litigation is only the tip of the iceberg.[198] Much of the patent assertion activity seems to occur without litigation, and a company may receive hundreds of demand letters with only a few resulting in litigation. This, of course, considers only the monetization activity in *patents*, rather than all areas of intellectual property.

At a recent FTC/DOJ workshop on the antitrust implications of patent assertion activity, casual conversation concerned the shape of the iceberg that lies below. Even as we are beginning to understand a little about the tip of the activity represented by the lawsuits filed, what does the rest of the activity look like? Is it similar to the tiny part that is visible, or is it entirely different in size and quality?

Careful empirical analysis of the question is almost impossible. Monetization behavior is buried in complex layers of subsidiaries and revenue sharing arrangements. It is also shrouded in strict non-disclosure agreements, so that even those who wish to share their experiences with regulators (or academics) are constrained. Even when the activity proceeds to trial, courts are frequently willing to seal all or part of the documents. Most important, the reporting requirements built so carefully by competition authorities and securities regulators are not designed to capture the

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[196] *See* Sara Jeruss, Robin Feldman, & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, 11 DUKE L. & TECH. REV. 357, 361 (2012).

[197] *Id.*; *see also* Sara Jeruss, Robin Feldman, & Joshua Walker, *The America Invents Act 500 Expanded: Effects of Patent Monetization Entities*, UCLA J.L. & TECH (forthcoming 2013).

[198] *See* Jeruss et al., *supra* note 196, at 362.

emerging monetization behavior, or perhaps the monetization behavior is designed to avoid such reporting.

Additional information is critical for properly shaping the contours of any and all responses to the problem. The power to obtain that information lies in one place: with the Federal Trade Commission under the broad investigatory power of Section 6(b) of the Federal Trade Commission Act.

A. Section 6(b) of Federal Trade Commission Act

The Federal Trade Commission (FTC) possesses both targeted law enforcement authority and broad investigatory authority.[199] In the realm of investigation, the FTC has the power to conduct wide-ranging economic studies of businesses and practices that affect commerce, as well as to report on the information, through annual and special reports and through recommendations for legislation.[200] Of particular importance to its investigatory powers, § 6(b) of the Federal Trade Commission Act authorizes the FTC to require entities to generate and produce reports or written answers to questions outside of the scope of any specific law enforcement operation.[201] The power to compel the creation of information, in addition to simply requiring entities to turn over documents that already exist, has been an extraordinarily robust and effective mechanism for understanding complex effects in the marketplace and for crafting appropriate responses.[202]

Some FTC economic investigations utilize only publicly available information, thus avoiding the powers enunciated in § 6(b). These types of investigations were first seen in the 1970s and are issued as "working papers", briefing books, and "issue papers." Although the FTC has occasionally pursued information through simultaneous subpoenas and § 6(b) orders,[203] the power outlined in § 6(b) is typically manifested by the issuance of special orders in industry-wide investigations.[204] These

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[199] *See generally* OFFICE OF POLICY PLANNING, FTC, HISTORY OF SECTION 6 REPORT-WRITING AT THE FEDERAL TRADE COMMISSION (1981) [hereinafter HISTORY OF § 6], *available at* http://www.ftc.gov/be/econrpt/231984.pdf.

[200] 15 U.S.C. § 6(a), (f) (1982).

[201] 15 U.S.C. § 46(b) (West 2006); 1 STEPHANIE W. KANWIT ET AL., FED. TRADE COMM'N § 13:5 (West 2012).

[202] Fed. Trade Comm'n v. Invention Submission Corp., 965 F.2d 1086, 1089 (D.C. Cir. 1992).

[203] For example, *see* Gasoline Pricing Investigation (Response to Petition), 141 FTC 498, 504 (2006).

[204] KANWIT, *supra* note 201.

special orders mandate the production of documents containing answers to questionnaires that seek specific information that is then compiled by the FTC.[205]

Many of the FTC reports have influenced new legislation,[206] and an early FTC Task Force commented that, "[o]f all its activities, the Commission's investigations have probably had the most substantial impact and enduring value."[207] In particular, a number of reports from the FTC's early history played a significant role in enduring legislation. For example, the FTC's *Report on the Meatpacking Industry* (1919-1920) led to the Packers and Stockyards Act of 1921, the *Report on the Grain Trade* (1924-1926) had a strong influence on the passage of the Grain Futures Act, and the *Chain Stores Report* (1931-1934) was critical to passage of the Robinson-Patman Act of 1936. FTC reports also pointed the way to the enactment of the Securities Act of 1933, the Stock Exchange Act of 1934, and the Public Utility Holding Company Act of 1935.[208]

Two examples of more recent reports include an influential study on the pharmaceutical industry in 1977 and a series of four studies on the alcoholic beverage industry ranging from 1999 to 2012. The pharmaceutical industry investigation began in 1977.[209] The resulting report, issued in 1979, examined the structure of the industry and concluded that trademarked brand names provided monopolistic market power and that state drug anti-substitution laws hindered fair competition.[210] The reported findings heavily influenced legislation, and at least one state adopted the FTC's proposed law almost verbatim.[211] Furthermore, the report assisted successful court challenges to state drug anti-substitution laws and supported an investigation that led to a Supreme Court decision to overturn limits on disclosing retail drug prices.[212]

The FTC investigated the alcohol industry in three studies issued from 1999 to 2008.[213] The studies were directed at the dual purposes of studying the impact of

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[205] *See Order to File Special Report*, FTC (Apr. 2012), *available at* http://www.ftc.gov/os/2012/04/120412alcoholreport.pdf.

[206] HISTORY OF § 6, *supra* note 199, at 7.

[207] *Id* at 2. (citing Boyle, *Economic Reports and the Federal Trade Commission: 50 Years' Experience*, 24 FED. BAR J. 489 (1964)) (quoting FEDERAL TRADE COMMISSION, TASK FORCE REPORT ON REGULATORY COMMISSION, app. N, at 127 (1949)).

[208] *Id.* at 2-7.

[209] FTC BUREAU OF ECONOMICS, SALES, PROMOTION AND PRODUCT DIFFERENTIATION IN TWO PRESCRIPTION DRUG MARKETS (1977), *available at* http://www.ftc.gov/be/econrpt/197702salespromo.pdf.

[210] FED. TRADE COMM'N, STAFF REPORT ON DRUG PRODUCT SELECTION (1979).

[211] *See* HISTORY OF § 6, *supra* note 199, at n. 189.

[212] *See* Virginia State Bd.of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748 (1976).

[213] *See generally* FTC BUREAU OF ECONOMICS, SELF-REGULATION IN THE ALCOHOL

alcohol advertisement on underage consumers and determining the effectiveness of voluntary industry guidelines in decreasing underage consumption.[214] The recommendations of the reports resulted in agreements among industry groups to adopt voluntary placement standards for radio, television, print, and Internet advertisements, a system of periodic internal audits of advertisement placements, and a structure for external review of compliance.[215] Though underage drinking is still a reality, the data show that underage drinking has gradually declined since the studies were initiated.[216] In 2012, the FTC again utilized its power under § 6 to issue orders to 14 major alcoholic beverage distributors, seeking detailed information on advertisement and marketing practices.[217] In these and other wide-ranging economic investigations, the powers enabled by § 6(b) have provided an important tool for helping to develop legislative approaches, influencing industry practices, and understanding challenges in the marketplace.

B. Structuring an FTC § 6(b) Investigation into Intellectual Property Assertion and Monetization

In structuring an FTC § 6(b) investigation into intellectual property monetization behavior, it will be critical to ensure adequate confidentiality of business information. It is certainly possible that an FTC investigation could conclude that some of the information that entities currently classify as that which cannot be disclosed is the type of information that ought to be publicly catalogued. For example, the Patent and Trademark Office is currently considering proposed sunshine rules that would require patent holders to disclose not only who owns a patent but also who are the real parties in interest.[218] One could imagine additional recommendations along these lines emerging from an FTC investigation. Nevertheless, a larger number of compa-

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INDUSTRY (2008), *available at* http://ftc.gov/os/2008/06/080626alcoholreport.pdf*; see also* FTC BUREAU OF ECONOMICS, ALCOHOL MARKETING AND ADVERTISING (2003), *available at* http://www.ftc.gov/os/2003/09/alcohol08report.pdf.

[214] *See supra* note 213.

[215] Press Release, FTC Office of Public Affairs, FTC Orders Alcoholic Beverage Manufacturers to Provide Data for Agency's Fourth Major Study on Alcohol Advertising (April 12, 2012), *available at* http://www.ftc.gov/opa/2012/04/alcoholstudy.shtm.

[216] FTC BUREAU OF ECONOMICS, SELF-REGULATION IN THE ALCOHOL INDUSTRY 2 (2008) (accompanying figures demonstrate a gradual decrease in alcohol consumption among minors from 1999 to 2007).

[217] *See* Fed. Trade Comm'n, *Order to File Special Report*, FTC Matter No. P104518 (Apr. 2012), *available at* http://www.ftc.gov/os/2012/04/120412alcoholreport.pdf.

[218] *See* Notice of Roundtable on Proposed Requirements for Recordation of Real-Party-in-Interest Information Throughout Application Pendency and Patent Term, 77 Fed. Reg. 70,385 (proposed November 26, 2012).

nies are more likely to cooperate willingly with an investigation, if the agency can minimize concerns about leakage of information that businesses currently consider confidential.

In this context, a potential untapped fountain of information may exist in the filings of patent cases themselves. Many of the court documents in patent litigations have been sealed. Although much of the information undoubtedly concerns technical details related to technologies, other information under seal may document evidence of monetization activity—information that was collected for the litigation. Once again, entities are less likely to resist an order to provide such information if the information will be anonymized or otherwise kept confidential within the walls of the FTC.

Willing cooperation is not essential for a § 6(b) investigation, and the federal courts have upheld the FTC's right to compel compliance.[219] Obviously, however, willing participants can be more useful than those who resist, not the least of which because the agency can avoid the trouble of having to secure various court orders to compel compliance.

Any investigation will also have to walk a delicate line between 1) surveying a sufficiently wide selection of entities to ensure empirical reliability and 2) locating and examining behaviors that are troubling with sufficient depth. In order to pursue both of the goals effectively, the agency could consider initiating a two-part investigation. In one prong of the investigation, the FTC could request information systematically, looking at numerous industries and varying firm sizes within those industries and requesting information from a random sampling of companies within each industry and size classification.

The shroud of secrecy that surrounds much of the monetization activity makes it particularly difficult to know where to look, however, and a different prong of the investigation could be designed specifically to address that problem. Here, the FTC could take a deeper look at a number of entities and industry segments as case studies. As part of deciding what to examine for the case studies, the FTC could provide a mechanism in which entities could confidentially suggest that their own com-

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[219] *See* United States v. Morton Salt Co., 338 U.S. 632, 651 (1950) (concluding that the FTC possesses authority under Section 6 to compel the submission of special reports); F.T.C. v. Texaco, Inc., 555 F.2d 862, 883 (D.C. Cir. 1977) (holding that the FTC is "specifically authorized to compel production of evidence from any place in the United States, at any designated place of hearing") (internal citations omitted); Appeal of FTC Line of Bus. Report Litig., 595 F.2d 685, 703 (D.C. Cir. 1978) (holding that an FTC orders must enforced "if it does not transcend the agency's investigatory power, the demand is not unduly burdensome or too indefinite, and the information sought is reasonably relevant," then enforcing the orders at issue).

pany's experiences could provide a fruitful case study. In other words, a company could confidentially say to the FTC, "please require that I ignore my non-disclosure agreements and respond to your in-depth investigation, because my experiences are ones that you should look at." In this way, one could provide a signal to the FTC without violating any obligations to third parties.

The list of case studies actually undertaken by the FTC could be drawn from a combination of those who confidentially volunteered and those whom the FTC identified on its own. If handled carefully, this approach could shield the identity of the volunteers and avoid the possibility of market retaliation against them.

Much of the public discussion at the moment concerns the effects of monetization on the patent system, and it is certainly true that problems appear to be deeper and more widespread in patent at this point than in other areas of intellectual property. As a result, patents would undoubtedly be the major focus of any FTC investigation. Nevertheless, given the fluidity between the different intellectual property protections systems and the increasing appearance of monetization behavior outside of patents, it could be beneficial to include some questions that touch on other intellectual property systems, particularly copyright. Looking at the ways in which monetization is being manifested in other systems could allow us to address problems before they reach the level of disruption we are seeing in the patent system.

A carefully considered § 6(b) investigation could help guide Congress, the courts and regulatory agencies in defining what is, and what is not, appropriate use of intellectual property rights. It could also be essential in identifying the behaviors that are occurring, understanding their impact, and crafting optimally effective responses in a way that is the least disruptive to commerce.

VII.Conclusion

Innovation is one of our most valuable national resources. Properly constructed, the intellectual property system can nurture that innovation, encouraging the development of the products, services and economic benefits that accompany a thriving creative and commercial environment. When those intellectual property rights, created by society in the hopes of ensuring the concomitant benefits to the industrial and creative arts, are diverted to the service of more noxious pursuits, we must create the tools that will allow our legal system to respond.

Above all, litigation should not be a competition tool. Allowing this to flourish unchecked directs society's creative resources away from building a better mousetrap and towards building better legal traps. Developing the notion of inappropriate use of intellectual property is a first step in giving society its own suffi-

ciently sophisticated arsenal to respond to the harmful use of the rights we ourselves have created.

I have noted in the past that bargaining over the boundaries of patent rights is inevitable.[220] The reality of this prospect, however, does not relieve us of the burden of controlling the bargaining. Rather, recognition of the bargain aspect of patents increases society's responsibility for encouraging the productive use of patents and discouraging the more destructive aspects of the bargaining.

The same is true for all intellectual property rights. Society has created these rights, removing activities that could be enjoyed by the whole of society and appropriating them to the benefit of the few, in the hopes that the creation of these rights will redound to the benefit of all. It is our responsibility to rein them in.

I am reminded of a story told to medical students to illustrate the workings of an insane mind. A man emerges from his house each day, picks up his newspaper and then drops a large bolder onto his foot. Why would he repeat this painful activity day after day? Because he believes that it is of benefit to him. With intellectual property rights, we inflict some pain on ourselves in the hopes of bringing about long-term gain. The size of the boulder, however, is fast approaching the point at which it changes from short-term pain to pure insanity.

[220] *See* FELDMAN, *supra* note 19.

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The Giants Among Us

TOM EWING & ROBIN FELDMAN*

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INTRODUCTION

¶1 The patent world is quietly undergoing a change of seismic proportions. In a few short years, a handful of entities have amassed vast treasuries of patents on an unprecedented scale. To give some sense of the magnitude of this change, our research shows that in a little more than five years, the most massive of these has accumulated 30,000-60,000 patents worldwide, which would make it the 5th largest patent portfolio of any domestic US company and the 15th largest of any company in the world.

¶2 Although size is important in understanding the nature of the shift, size alone is not the issue. It is also the method of organization and the types of activities that are causing a paradigm shift in the world of patents and innovation.

¶3 These entities, which we call mass aggregators, do not engage in the manufacturing of products nor do they conduct much research. Rather, they pursue other goals of interest to their founders and investors. Non-practicing entities have been around the patent world for some time, and in the past, they have fallen into two broad categories.[1] The first category includes universities and research laboratories, which tend to have scholars engaged in basic research and license out inventions rather than manufacturing products on their own. The second category includes individuals or small groups who purchase patents to assert them against existing, successful products. Those in the second category have been described colloquially as "trolls," which appears to be a reference to the children's tale of the three billy goats who must pay a toll to the troll waiting under the bridge if they wish to pass. Troll activity is generally reviled by operating companies as falling somewhere between extortion and a drag on innovation.[2] In particular, many believe that patent trolls often extract a disproportionate return, far beyond the value that their patented invention adds to the commercial product, if it adds at all.[3]

¶4 The new mass aggregator, however, is an entirely different beast. To begin with, funding sources for mass aggregators include some very successful and respectable organizations, including manufacturing companies such as Apple, eBay, Google, Intel, Microsoft, Nokia, and Sony, as well as academic institutions such as the University of Pennsylvania and Notre Dame, and other entities such as the World Bank and the William and Flora Hewlett Foundation. Nations such as China, France, South Korea, and Taiwan even have their own mass aggregators to varying degrees.

¶5 Moreover, the acquisition appetites and patent supply sources are quite interesting. Mass aggregators may have portfolios that range across vastly different areas of innovation from computers to telecommunications to biomedicine to nanotechnology.[4] In some of the acquisition

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[1] Sannu K. Shrestha, *Trolls or Market Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114, 115 ("NPEs are firms that rarely or never practice their patents, instead focusing on earning licensing fees."); U.S. FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION, 2011 WL 838912 at 60 (2011), *available at* http://www.ftc.gov/os/2011/03/110307patentreport.pdf ("NPE also commonly refers to firms that obtain nearly all of their patents through acquisition or purchase in order to assert them against manufacturers."); *see also* Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1572 (2009).

[2] Chien, *supra* note 1 at 1577-78 ("The term NPE generally refers to a patentee that does not make products or 'practice' its inventions."); Jeremiah S. Helm, Comment, *Why Pharmaceutical Firms Support Patent Trolls: The Disparate Impact of* eBay v. Mercexchange *on Innovation*, 13 MICH. TELECOMM. & TECH. L. REV. 331, 333 (2006) (distinguishing between universities and patent trolls); Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 629-30 (2008) (distinguishing between universities as non-practicing entities and trolls); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1810 (2007) ("'[P]atent troll' . . . is a derogatory term for firms that use their patents to extract settlements rather than license or manufacture technology."); *see also* Jay P. Kesan, *Transferring Innovation*, 77 FORDHAM L. REV. 2169, 2193 (2009) (cautioning universities against appearing troll-like because patent trolls are perceived unsympathetically).

[3] *See* Lemley, *supra* note 2, at 613-14; Magliocca, *supra* note 2 at 1810 ("Critics claim that these firms are little more than blackmailers who put a crippling tax on productive enterprises.").

[4] Pharmaceuticals seems to be the one technical area generally excluded from mass aggregation, perhaps because the pharmaceutical innovation system has evolved to include lesser degrees of technical sharing.

activity, mass aggregators purchase large chunks, and even the majority, of an operating company's patents and patent applications. They typically pay cash up front, as well as a share of any future profits generated from asserting the patents against anyone other than the selling manufacturer. Mass aggregators have engaged in other unusual acquisition approaches as well, including purportedly purchasing the rights to all future inventions by researchers at universities in developing countries. Other acquisition approaches purportedly include targeted purchases of patents that are of particular interest to the mass aggregators' investors.

¶6 The types of returns promised to investors and the types of benefits offered to participants are also quite different from garden-variety non-practicing entities, as are some of the tactics used in organizing the entities and in asserting the patents. Finally, the scale itself is simply mind-boggling. Mass aggregators operate on a scale and at a level of sophistication and complexity that would have been unimaginable a decade ago. They have taken the prototype strategies pioneered by a prior generation of non-practicing entities and changed them into some of the cleverest strategies yet seen in the intellectual property rights field.

¶7 The goal of this article is to shed some light on mass aggregators. We hope to provide some understanding of the nature of the change, to analyze its economics and implications, and to offer some normative considerations. In the descriptive section, we focus on the oldest and largest of the mass aggregators, Intellectual Ventures, which has gone to great lengths to maintain secrecy. Working from public sources and investing thousands of hours of research, we offer a detailed picture of the entity, tracing through approximately 1300 shell companies and thousands of patents. The section also describes in brief form several other mass aggregators, including ones that are public companies.

¶8 In the analytic section, we examine the potential implications of mass aggregators for the patent system specifically, for innovation in general, and for the economy as a whole. We look at the potential positive effects that mass aggregators might bring, including facilitating appropriate rewards for forgotten inventors, creating a market to connect innovators with those who can manufacture their inventions, and, most important, operating as a form of insurance—something akin to an Anti-Troll defense fund.

¶9 On the other side, we look at the potential economic dangers of mass aggregators and the market for patent monetization they create. Given the imperfections of the patent system and the odd characteristics of the product created by the market for patent monetization, mass aggregators may serve as a tax on current production that reduces future innovation. Characteristics of the market may also provide opportunities for anticompetitive behavior.

¶10 Finally, we offer a few preliminary, normative observations on whether and to what extent the sovereign, in the form of various governmental bodies, should become involved in these market-level changes. The section also considers broadly the types of changes that would have to occur for such participation to take place in a meaningful and minimally disruptive fashion.

I. FACTS

¶11 Over the last five years, information about mass aggregators has slowly filtered out into the patent community. Initial information was fueled largely by speculation as well as quiet, oblique comments from those bound by confidentiality agreements or concerned about incurring the wrath of the aggregators. As a reporter researching one of the mass aggregators noted as recently as July 2011,

> [W]e called people who had licensing arrangements with [Intellectual Ventures], we called people who were defendants in lawsuits involving [Intellectual Ventures] patents, we called every single company being sued by Oasis Research. No one would talk to us.[5]

[5] Alex Blumberg & Laura Sydell, *This American Life: When Patents Attack* (National Public Radio broadcast, July 22, 2011) (transcript available at http://www.npr.org/blogs/money/2011/07/25/138576167/when-patents-attack) (noting that the

¶12 We encountered similar reticence when we first began trying to understand the structure and activities of aggregators. "You can't find out anything about them; don't even try," is a chant that has been whispered in intellectual property circles for a number of years. It motivated us to take a hard look, and the information eventually unraveled like the yarn from an old sweater.

¶13 A literature search on Intellectual Ventures reveals many opinions about the company but few independent facts. We have aimed to fill that void by tracing the intellectual property assets that the company appears to own, identifying the sources of those assets, and describing the company's activities. The data we provide here is the result of four years of painstaking research, piecing together bits of information available from public sources.

A. Intellectual Ventures

¶14 Much about Intellectual Ventures is shrouded in secrecy. Intellectual Ventures has acknowledged that it intentionally withholds the true scope and nature of its IP portfolio.[6] Its licensing transactions and interactions are protected by strict nondisclosure agreements, and the structure of its business activities makes it difficult to get a handle on the full extent of its activities. For example, our research has identified more than a thousand shell companies that Intellectual Ventures has used to conduct its intellectual property acquisitions, and it has taken considerable effort to identify these. The range and scope of its activities are so vast that it is difficult to conceptualize the reach of Intellectual Ventures.

¶15 Intellectual Ventures was founded in 2000 by Nathan Myhrvold and Edward Jung, both of whom formerly served in high-level positions at Microsoft.[7] Peter Detkin also played a key management role in developing Intellectual Ventures.[8] In one of patent law's great ironies, Detkin coined the derogatory term "patent troll" during his tenure as the chief intellectual property officer at Intel.[9]

¶16 Although operations began in 2000, Intellectual Ventures does not appear to have begun its massive patent acquisitions in earnest until somewhere around 2004 or 2005, when the annual number of acquisitions transaction we could identify rose from a handful to several hundred.

¶17 According to Intellectual Ventures, invention *per se* is its product, and both Myhrvold and Detkin have referred to the company's business model as "Invention Capitalism." They define Invention Capitalism as applying concepts from venture capital and private equity to develop and commercially exploit new inventions.[10]

¶18 Although Intellectual Ventures is designed to make money from trading in patent rights, the founders describe their activities as ones that will incentivize research and development in all technical subjects. Myhrvold, for example, has been quoted as saying the following:

> Most of people think of research as a charity, a philanthropic thing. They don't view it as a for-profit venture. So our goal is to make research something you can invest in. I think it's

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reluctance was fueled in part by fear and in part by Intellectual Ventures' nondisclosure agreement, rumored to be the strictest in Silicon Valley).

[6] *See* Victoria Slind-Flor, *The Goodfellas: Detkin and Myhrvold on Patents, Trolls & Intellectual Ventures*, 19 INTELL. ASSET MGMT. 28, 34 (noting that Intellectual Ventures will not reveal how many patents it has or the entities to which it has licensed technology, and quoting Myhrvold's response that "We're a private company. We don't disclose our investment plans any more than Warren Buffet does."); *see also* Steve Lohr, *Turning Patents into 'Invention Capital'*, N.Y. TIMES, Feb. 18, 2010, at B1 (paraphrasing Myhrvold as saying that Intellectual Venture's "penchant for secrecy" is a legacy from its startup days when it "did not want to tip its hand").

[7] Intellectual Ventures LLC was formed on September 21, 1999. Corporations Division – Registration Data Search, WASH. SEC. OF STATE, http://www.sos.wa.gov/corps/search_detail.aspx?ubi=601981783 (last visited Nov. 15, 2011). Nathan Myhrvold formerly served as Microsoft's chief technology officer, and Jung served as Microsoft's chief architect. *Our Team*, INTELLECTUAL VENTURES, http://intellectualventures.com/WhoWeAre/OurTeam.aspx (last visited Nov. 15, 2011).

[8] Detkin joined Intellectual Ventures in 2002. Peter N. Detkin, *Leveling the Patent Playing Field*, 6 J. MARSHALL REV. INTELL. PROP. L. 636 n.* (2007), *available at* http://www.jmripl.com/Publications/Vol6/Issue4/Detkin.pdf.

[9] *Id.* at 636 (stating that he coined the term); Brenda Sandburg, *You May Not Have a Choice. Trolling for Dollars*, THE RECORDER (July 30, 2001), http://www.phonetel.com/pdfs/LWTrolls.pdf (using the term and attributing it to Detkin).

[10] *See* Detkin, *supra* note 8, at 636 n.*; Lohr, *supra* note 6 (citing Nathan Myhrvold); Nathan Myhrvold, *The Big Idea: Funding Eureka,* HARVARD BUSINESS REVIEW, Mar. 2010, at 40, *available at* http://hbr.org/2010/03/the-big-idea-funding-eureka/ar/1.

> a valuable investment if you know what you're doing. So we think that if we supply capital and expertise in the right way then we can make a hell of an investment and if we are successful at doing it, the net research budget will go up.[11]

¶19 The scope of Intellectual Ventures' activities is so vast that it is difficult to contemplate the reach of the company. It has invested in innovations and technologies across a broad spectrum of industries—everything from computer hardware to biomedicine to consumer electronics to nanotechnology. In more than 1,000 transactions, by our count, the company has acquired inventions and related intellectual property from individual inventors, corporations of all sizes, governments, research laboratories, and universities.

¶20 Getting a handle on the scope and activities of an entity as secretive as Intellectual Ventures is not easy.[12] We have tried to create a picture of the company by piecing together information from publicly available sources. These sources include the patent assignment records of the United States Patent and Trademark Office (USPTO); the USPTO's PAIR database,[13] which includes the file histories of patents; the USPTO's patent and application database; government records for key states, including Delaware, Nevada, Washington, and California; Internal Revenue Service filings for non-profit entities; Securities and Exchange Commission data from 10Q and 10K filings by corporations; the Federal Register; filings made in dozens of litigations; and press releases and other publications from various entities.

¶21 The structure of the Intellectual Ventures network of operations makes it tremendously difficult to detect and trace the company's activities. For example, Intellectual Ventures has acknowledged that it uses shell companies for purchasing and holding patents, although it has not publicly identified the number of shells or their names.[14] In 2006, one magazine identified 50 shell companies that it believed were being operated by Intellectual Ventures. Our research has pieced together 1276 shell companies associated with Intellectual Ventures. We do not believe that we have identified all of the Intellectual Ventures shell companies, but these 1276 companies alone hold roughly 8000 US patents and 3000 pending US patent applications as of May 2011.[15]

¶22 Even with some knowledge of the shell companies, tracking the Intellectual Ventures portfolio is complicated by the fact that Intellectual Ventures has at times neglected to record its ownership for long periods of time. In some cases, for example, we found parties indicating that they had sold or licensed patents to Intellectual Ventures—even to the point of identifying the intellectual property with great particularity—but we could not locate a corresponding assignment in the USPTO database.[16]

¶23 Although Intellectual Ventures has never divulged the precise nature and extent of its portfolio, the company has reported that it holds some 35,000 "invention assets."[17] The company does not define the term, but we assume that this phrase refers not only to patents but also to patent applications, non-filed invention disclosures,[18] design patents, trademarks, and any trade secrets

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[11] Nathan Myhrvold, Speech at the Churchill Club in Palo Alto, CA (Feb. 27, 2007).

[12] Credit for this exhaustive research goes to co-author Tom Ewing.

[13] PAIR stands for Patent Application Information Retrieval.

[14] *See* Slind-Flor, *supra* note 6, at 32 (quoting Peter Detkin as acknowledging that Intellectual Ventures uses shells for acquisitions and noting that many companies do this to keep potential liabilities of the acquired company from affecting the whole organization).

[15] At least 175 of the patents acquired by Intellectual Ventures have reached the end of their terms and expired. Likewise, many more of their patents will expire in just a few years. We have not checked patent maintenance fee payment information to determine if any of the other patents have expired due to failure to pay maintenance fees. In any event, the "active" US portfolio is likely a bit smaller than suggested by the numbers above.

[16] In one case, Intellectual Ventures opted not to record a change of ownership for 2506 days following execution. An assignment for US Publication No. 20090254972 was executed on Aug. 9, 2002, but not recorded until June 19, 2009. *See* , USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Publication Number" for "20090254972").

[17] Press Release, Intellectual Ventures, BlueCat Networks Signs Patent Agreement With Intellectual Ventures (June 28, 2011), *available at* http://intellectualventures.com/newsroom/pressreleases/11-06-28/BlueCat_Networks_Signs_Patent_Agreement_With_Intellectual_Ventures.aspx.

[18] The company has claimed to have some 3000 unfiled invention disclosures. *See* Tom Ewing, *Inside the World of Public*

owned or licensed by the company. Further confusing the issue is whether the company counts as "invention assets" patents or only patent families. The company also is not clear about where these assets exist, but we assume that this number represents the company's worldwide portfolio. If the 35,000 number were to represent the company's United States portfolio alone, Intellectual Ventures would hold a portfolio larger than IBM's United States portfolio, which is generally acknowledged as the largest domestic portfolio.

¶24 To give a fuller picture of precisely what Intellectual Ventures owns, we assembled as much information as possible from public sources on the company's holdings that are actually patents. To summarize the information below, we estimate that Intellectual Ventures has a worldwide portfolio of 30,000-60,000 patents and applications as of May 2011. This would mean that in just a few short years, Intellectual Ventures has acquired at least the 5th largest patent portfolio among US companies and approximately the 15th largest patent portfolio worldwide.[19]

B. Patents and Applications Held by Intellectual Ventures

¶25 With a great deal of digging, we were able to locate 1276 shell companies and related entities that appear to be associated with Intellectual Ventures.[20] These companies hold approximately 8000 US patents and 3000 pending US patent applications. We do not believe that we have found all of the shell companies.[21] Nevertheless, we believe we can calculate a reasonable approximation of Intellectual Ventures' patent holdings. The overall size of Intellectual Venture's portfolio can be estimated in several ways based on the information that we have obtained. The estimate below comes from what we have learned about these 1276 shell companies.[22]

¶26 We begin by using information about Intellectual Venture's shell companies. First, we have identified some 50 shells that appear to serve a management function, one shell that serves a trademark function, a dozen or so that serve investment functions. Of the remaining 1200 companies, 954 companies have patents recorded against their names, and some 242 shells do not have patents recorded against their names, although some of them clearly hold licensed-in patent rights.

¶27 We have noticed that Intellectual Ventures has a pattern of establishing a shell to receive assets well before the transaction related to those assets has been completed. Thus, we suspect that at least some of the 242 companies without patents recorded against their names are awaiting allocation of assets from a patent-related transaction. We suspect that others have already experienced a patent-related transaction, but that the transaction has yet to surface in the public record. For example, if Intellectual Ventures receives an exclusive license to a patent, the effect would be similar to owning the patent outright, but the parties would not necessarily record a change of patent ownership with

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Auctions, 42 INTELL. ASSET MGMT. 67 (2010).

[19] Patent holdings are difficult to compare and rank because, among other things, to be completely accurate, one must account for patents expired on the basis of age and/or failure to pay annuity/maintenance fees.

[20] The shell companies that we know about seem to serve the following functions: 1201 patent holding shells, 1 trademark holding shell, 51 asset management shells, and 24 executive and investment shells. See Appendix C for a further discussion of research methodology.

[21] As noted elsewhere, we have found approximately 100 other companies registered in Delaware that appear to be shell companies but do not presently hold patents. We will continue to monitor these companies.

[22] The size of Intellectual Ventures' portfolio can also be estimated based upon how much the company has spent acquiring this portfolio and how much they have spent per patent. As an arbitrage buyer, one could assume that Intellectual Ventures spends roughly the same amount per patent in all of its purchases. Myhrvold reported that Intellectual Ventures had spent $1.163 billion acquiring patents by May, 2009. Nigel Page, *IV Shifts Gear*, 36 INTELL. ASSET MAG. 9, 10 (2009). In a study of Ocean Tomo patent auctions, we concluded that Intellectual Ventures had spent a little more than $61 million acquiring 410 US patents and their foreign counterparts at an average cost of $148,966 per US patent obtained. Tom Ewing, *Publicly Auctioned Patent Buyers*, 34 AVANCEPT (2010). Some published reports have said that Intellectual Ventures pays only $40,000 per patent. Page, *supra* at 13. Application of this information combined with additional information about the growth of Intellectual Ventures' portfolio since May, 2009 leads to an estimated US portfolio of 10,149 US patents and 27,649 foreign patents by May, 2011 along with several thousand pending applications worldwide. This second estimate fits well with the estimate based upon analysis of patent-holding shell companies.

the USPTO, especially if the recipient of the exclusive license believed it highly unlikely that the registered patent owner would resell the patent to someone else.

¶28 The 954 shell companies that have patents recorded against their names have an average of 8.5 patents and 3.2 patent applications per company. Assuming that the other 242 shell companies contain unrecorded transactions, and applying these averages would yield another 2057 patents and 774 applications. Adding these missing patents and applications to our totals would yield roughly 10,000 patents and 3700 applications.[23]

¶29 Intellectual Ventures also claims that it files roughly 500 applications per year and that it is now one of the top 50 US patent filers. The company is somewhat vague as to whether these 500 applications comprise just those from its invention sessions or whether further filings[24] from purchased portfolios are included in this total. In any event, given that patent applications publish 18 months after filing, there should be roughly 750 presently unpublished patent applications as of May 2011.[25] Including unpublished applications keeps our estimate of US patents at 10,000 but the number of applications rises to roughly 4400.

¶30 The actual portfolio may be substantially smaller or larger than this estimate suggests. For example, if Intellectual Ventures has been more prompt about recording assignments than appears to be the case, then the portfolio may be smaller. Conversely, if Intellectual Ventures has significantly more shell companies than we have found, then the portfolio may be substantially larger than our estimate.

¶31 Despite having uncovered more than 1200 shell companies, we have little doubt that other shell companies have been formed. Exclusive licenses granted to Intellectual Ventures represent the greatest source of unknown patents since these agreements may not necessarily be recorded against the patents to which they pertain. For example, we are aware of transactions involving the University of Rhode Island and Campinas State University in Brazil, but we have no idea what shell company was involved. The University of California, San Diego has reported agreements with five shell companies but the patents involved in the licensing arrangement have not been recorded.[26] Similarly, the US Navy publicly disclosed the licensing of patents to two shell companies, but these licenses have not been recorded.[27]

¶32 In terms of the non-US portion of the portfolio, we note that approximately half of Intellectual Ventures' US portfolio originated with non-US entities. Many of these came from European entities, where intellectual property seems to be particularly undervalued in relation to United States intellectual property.[28] This suggests that Intellectual Ventures may be acting as an arbitrageur to exploit the disparities in intellectual property valuation between the United States and the rest of the world. Finally, in contemplating the size of the company's foreign patents, we note that a sizeable portion of the company's portfolio is fairly young, and as a general matter, younger portfolios are prosecuted more vigorously in international jurisdictions than has historically been the case for older portfolios.[29]

¶33 These factors strongly suggest that a typical US patent in the Intellectual Ventures' portfolio has at least one foreign counterpart. Given that the world has more than 150 patent-granting countries, the global scope of any patent portfolio can jump tremendously when the foreign counterparts are

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[23] This estimate does include certain recently acquired portfolios or apparently allied ones.

[24] E.g., continuation applications and reissue applications.

[25] The earliest that an application filed in December 2010 would publish is June 2011, and only if the application had a foreign counterpart. Otherwise, the application will typically remain secret until it issues as a patent.

[26] These companies are Eilean Technologies, Jacksonville Timucuan, Discovery Advance, Bettles Gates, and 10Spot.

[27] These companies are Bixenta Ventures and NanoComm Systems.

[28] Gaetan de Rassenfosse, *How SMEs Exploit Their Intellectual Property Assets: Evidence from Survey Data* 2, 3-4, 8, 18 (Melbourne Inst. of Applied Econ. and Soc. Research, Working Paper No. 20/10, 2010), *available at* http://www.springerlink.com/content/g3g2641632872gp3/.

[29] *See, e.g.*, WORLD INTELLECTUAL PROP. ORG., WORLD PATENT REPORT, A STATISTICAL REVIEW 7 (2008), *available at* http://www.wipo.int/export/sites/www/ipstats/en/statistics/patents/pdf/wipo_pub_931.pdf.

considered.[30] Not all patents have a foreign counterpart, however, and most patents do not have foreign counterparts in more than a handful of countries.

¶34 We did not search foreign corporate records, but it is possible that one could find more Intellectual Ventures patents that way—not just foreign patents held by Intellectual Ventures but also US patents held by the company. For example, we happened upon two examples of this in finding a set of US patents that Intellectual Ventures obtained from two foreign companies, only because the transactions with the shell companies were mentioned in documents published by the foreign company that we discovered during our research.[31]

¶35 Based on the information above, we assume that the typical Intellectual Ventures US patent has also been filed in two to four foreign jurisdictions as well. Extrapolating only from the US patents, and not taking into account any patents Intellectual Venture may have acquired that were filed only in foreign jurisdictions, the worldwide portfolio would be roughly 20,000-40,000 patents[32] and 9,000-18,000 applications, by May 2011. Thus, adding the estimated number of patents and patent applications together would suggest a portfolio that ranges from approximately 29,000 to 58,000 patents and applications worldwide. This range is, of course, an estimate, although a reasonably conservative one. Nevertheless, even these figures would place Intellectual Ventures among the 5th largest patent portfolio holders in the United States and among the 15th largest patent portfolio holders worldwide.

C. Origins of the Portfolio

¶36 We were able to find evidence that Intellectual Ventures has engaged in more than 1000 acquisition transactions. Through these transactions, the company has acquired inventions and related intellectual property from individual inventors, corporations of all sizes, governments, research laboratories, and universities.[33]

¶37 Intellectual Ventures states that its portfolio has been built through transactions variously classified as "strategic acquisitions," "targeted acquisitions," and "in-bound market-driven" opportunities. We suspect that some of the larger transactions also arise in conjunction with an investment in Intellectual Ventures by the party supplying the patents. The targeted acquisitions are purposeful acquisitions based on either rounding out or completing a portion of Intellectual Ventures' portfolio or a targeted growth area for the future.

1. Acquisitions Through University Transactions

¶38 The transactions with universities are particularly interesting, not necessarily as a percentage of the company's portfolio, but as offering insight into Intellectual Ventures' vision and potential effects on innovation. The company has announced that it has relationships with some 400 universities, although it has not identified all the institutions involved.[34] These relationships are not necessarily public because they may involve patents whose ownership remains with the university. For example,

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[30] Additionally, some patent owners continue to count provisional applications and PCT applications as being part of their portfolios long after these applications have expired. Similarly, some patent owners double count their EPO patents by counting the EPO-published patent applications while also counting the applications' counterpart issued patents throughout Europe. Finally, many patent owners do not distinguish patents granted by examination systems from patents granted by registration systems, which causes further confusion. In short, it is easy to inflate the numbers of a patent portfolio once international filing occurs. Discussing "patent families" helps somewhat, although there are also ways making a portfolio appear to have more families than it has in actuality.

[31] The two foreign companies noted here are Campinas and Torino Wireless.

[32] This "worldwide" estimate includes the US patents.

[33] Intellectual Ventures often gives the impression that much of its portfolio has been built by acquiring one or two patents from small inventors. In reviewing the transactions that we know about, we have found the following distribution of first-level sellers: Small and Medium Enterprises, 36.5%; Individual inventors, 25.7%; Large Companies, 15.8%; Consultants and brokerages, 14.3%; Universities, 5.3%; and Governments, 2.4%. The largest transactions in terms of number of patents involved have come from large companies and governments.

[34] *Intellectual Ventures Worldwide*, INTELLECTUAL VENTURES, http://intellectualventures.com/WhoWeAre/Worldwide.aspx (last visited Nov. 15, 2011).

the company may simply receive an exclusive license to commercialize the intellectual property involved, which would not necessarily appear as a recorded transfer of ownership. Nevertheless, we were able to find nearly 50 universities that appear to have signed deals with Intellectual Ventures, which we have listed at Appendix A. Some deals may involve sale or licensing of a few patents, some may involve investment by the university in Intellectual Ventures, and some may involve wholesale assignment of future innovation.

¶39 We did find one fascinating example of the wholesale assignment of innovation with an institution in a developing nation and have heard that this may represent a pattern. Specifically, we found a summary of an agreement with Brazil's Campinas University, one of that country's largest academic institutions. In that agreement, Intellectual Ventures appears to have secured the rights to file Patent Cooperation Treaty (PCT) patent applications for inventions developed at the university. In other words, the university may file domestic patent applications in its own country, and then Intellectual Ventures has the right to file PCT applications and secure worldwide rights to the inventions. The agreement appears to provide some revenue-share potential with the university as the result of Intellectual Ventures' commercialization, although we were not able to determine the specific terms and conditions.

¶40 We have been told that similar deals exist with universities in other developing countries. It is certainly a forward-looking approach towards gathering rights to future innovation, but it is one that could backfire on the company. Suppose, for example, that some individuals at academic institutions become unhappy with the deal and respond by creating very little that would fall within the terms of the agreement for the period of the agreement or by simply devoting their efforts to non-patentable activities. That would be a bad result on all levels—for the academic institution, for Intellectual Ventures, and for innovation as a whole.

2. Acquisition Through Portfolio Assumption

¶41 Another source of patents for Intellectual Ventures comes from offering a turnkey licensing service for small-to-medium enterprises. Consider, for example, the deal that Intellectual Ventures completed with the Digimarc Corporation in 2010. According to Digimarc's SEC filings, the company has granted Intellectual Ventures an exclusive license with the right to sublicense almost all of Digimarc's patents.[35]

¶42 The broad terms of Digimarc's deal with IV are as follows:

- a license issue fee of $36 million, paid in increasing quarterly installments over three years;
- 20% of the profits generated from the IV's licensing program, less expenses that include the license issue fee above;
- IV assumes responsibility for approximately $1 million per year in prosecution and maintenance costs previously borne by Digimarc for the licensed patents;
- a minimum of $4 million of paid support over five years from Digimarc to assist IV in licensing-related efforts; and
- a royalty-free grant-back license to the licensed patents to continue Digimarc's existing business related to those assets.

¶43 Thus, Intellectual Ventures buys the rights to most of Digimarc's patents, assumes the costs of maintaining the portfolio, and gains the right to go after other companies. Digimarc gets a cash payment plus a percentage of income earned when Intellectual Ventures goes after other companies

[35] The deal includes 597 patents and 288 patent applications owned by Digimarc. The company has retained 4 patents and 128 patent applications, as well as 26 patents and 26 patent applications for which it holds rights with third parties.

with the portfolio. Digimarc also retains a license to use the patents, as long as the use relates to its existing business.

C. Funding Sources

¶44 To finance its acquisitions and operations, Intellectual Ventures has raised at least $5 billion, according to published reports.[36] The company's initial funding seems to have come from operating companies such as Microsoft, Intel, Sony, Nokia, Apple, Google, and eBay. Subsequent funding sources include financial investors, comprised heavily of institutional endowments and wealthy individuals. These include the William and Flora Hewlett Foundation, the University of Pennsylvania, the University of Notre Dame, Grinnell College, and Charles River Ventures. The Bill and Melinda Gates Foundation has asked Intellectual Ventures to perform some contract research related to antimalarial devices; as far as we can tell, this is the only physical product made by the company, apart from some prototype work in a nuclear reactor co-invented by Myhrvold.[37]

¶45 Intellectual Ventures' investments are distributed among more than five funds, and the investors have not necessarily invested in each fund or in each fund equally.[38] In litigation against Xilinx in May 2011, Intellectual Ventures was forced to disclose the investors for four of its funds. In addition to the initial funding group mentioned above, investors included Amazon.com, American Express, Adobe, Cisco, Verizon, and Yahoo!, as well as Xilinx itself.[39]

¶46 According to Myhrvold, the funds raised by Intellectual Ventures are in the form of capital commitments that the company can use over a certain time period. The company claims that it has been structured to operate in a manner resembling that of venture capital and private equity funds. Thus, the company strives to receive approximately a 2% management fee plus 20% on the carried interest,[40] although actual terms from may vary significantly from fund to fund and acquisition to acquisition.

D. Return on Investment

¶47 One of the most interesting questions about mass aggregators, and one that is difficult to generalize, is what do investors get in return? The investors vary tremendously, as do the types of deals they are likely to have made. Some investors appear to be interested both in financial returns and in access to Intellectual Ventures' vast pool of patents.[41] As Vincent Pluvinage, Intellectual Ventures' former head of acquisitions, once explained, for investors that are technology companies, Intellectual Ventures can provide a defensive function in the form of access to patent licenses.[42] Pluvinage has stated, in fact, that some technology company investors have indicated specific

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[36] *Investing in Invention*, INTELLECTUAL VENTURES, http://intellectualventures.com/WhoWeAre.aspx (last visited Nov. 15, 2011); Defendants' Certificate of Interested Entities or Persons Pursuant to Civil Local Rule 3-16 and FRCP 7.1, Xilinx, Inc. v. Invention Investment Fund 1 LP, No. 11-CV-0671-SI (N.D. Cal. May 16, 2011).

[37] *The Need for Innovation in Energy*, INTELLECTUAL VENTURES, http://intellectualventures.com/OurInventions/TerraPower.aspx (last visited Nov. 15, 2011); John Letzing, *Myhrvold's Patent Firm Sees Revenue Swell*, MARKETWATCH (Mar. 4, 2011, 1:58 AM), http://www.marketwatch.com/story/myhrvolds-patent-firm-sees-revenue-swell-2011-03-04.

[38] These funds include: the Invention Science Fund I LLC; the Invention Science Inventors Fund I, LLC; Invention Science Management Fund I, LLC; the Invention Development Fund I LLC; the Invention Investment Fund I LP, the Invention Investment Fund II LLC, the Intellectual Ventures Fund I, and the Intellectual Ventures Fund II.

[39] The full list of investors in the four funds is listed at Appendix B.

[40] Page, *supra* note 22, at 10.

[41] For example, Verizon paid $350 million for patent licenses and an equity stake in one of Intellectual Ventures' investment funds in July 2008, according to published reports. *See, e.g.*, *Law.com - Verizon Patent Case Marks a First for Intellectual Ventures*, LEGAL TECHNOLOGY TODAY (Feb. 26, 2010), http://www.legaltechtoday.com/2010/02/26/law-com-verizon-patent-case-marks-a-first-for-intellectual-ventures-2/. Intuit similarly struck a $120 million deal with Intellectual Ventures in early 2009. *See, e.g.*, Zusha Elinson, *Intellectual Ventures and Intuit Work Out $120 Million Licensing Deal, Say Sources*, THE RECORDER (June 24, 2009), *available at* http://www.law.com/jsp/article.jsp?id=1202431711930&slreturn=1.

[42] For a description of using patents as bargaining chips in infringement litigation, see *infra* text accompanying note 169.

technology areas where they would like Intellectual Ventures to acquire patent rights in order to obtain license rights.[43]

¶48 Another category of investors, however, would have little interest in access to patents. For example, one would not expect the William and Flora Hewlett Foundation or the World Bank to be particularly interested in patent licenses. In fact, Pluvinage confirmed that the company has some purely financial investors, and financial investors typically have no need for patent licenses. Pluvinage believes that the financial investors have chosen Intellectual Ventures and the general category of intellectual property as an investment because it's believed to be uncorrelated to other investment classes.

¶49 For investors who get access to the patent pool, that access provides something far more sophisticated and complex than the patent licenses that would be necessary to produce a product.[44] Consider the story of Verizon, which paid $350 million for patent licenses and an equity stake in one of the Intellectual Ventures Funds in 2008. TiVo sued Verizon for infringement.[45] Verizon purchased a patent from one of Intellectual Ventures' shell companies, which was then put to work as a counterclaim in the TiVo suit[46] in a program that Intellectual Ventures calls "IP for Defense."[47]

¶50 One can see a similar progression with Vlingo. Nuance Communications sued Vlingo for infringement. At the time of the lawsuit, Vlingo's portfolio contained mostly pending applications.[48] With this type of portfolio, a company would have nothing available for countersuit. Vlingo didn't buy just one patent, as Verizon did, it bought seven patents from Intellectual Ventures and used five of them to sue Nuance. Thus, with both Vlingo and Verizon, the company was able to purchase the patents needed for leverage in litigation, just at the time it was needed.[49]

¶51 Such transactions would be even more interesting if the arrangements allowed the purchaser to sell the patent back to the aggregator at the conclusion of the litigation.[50] This would resemble a leasing program, or perhaps a form of a patent library, in which those who invest in mass aggregators could obtain just the right patent needed at just the right moment, returning the patent when the need has passed. The purchaser might even be able to make a profit on the transaction, given that a litigation-tested patent is presumably more valuable than an untested patent.

¶52 Access to a vast patent pool could be enormously valuable to a technology company, but one must be careful of the hand that feeds. When infringement litigation broke out between Intellectual

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[43] Page, *supra* note 22, at 11 (quoting Pluvinage's statement that financial investors invest in Intellectual Ventures because "it's uncorrelated and long term." For strategic investors, Intellectual Ventures offers a "defensive function," including the ability to tell Intellectual Ventures "which technology domain they want access to").

[44] We do not know if Intellectual Ventures' licenses are perpetual or require recurring royalty payments.

[45] Tivo sued Verizon on August 26, 2009. TiVo Inc. v. Verizon Comm'cns, Inc., No. 2:09-CV-257, 2010 U.S. Dist. LEXIS 112320 (E.D. Tex. filed Aug. 26, 2009).

[46] The Intellectual Ventures shell was originally named Aerosound LLC before a recordation of its name change was made with the USPTO on February 17, 2010. *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5410344"). It is uncertain precisely when Verizon bought this patent, as the transaction has not been recorded at the USPTO; however, the counterclaim was added on February 24, 2010, and Verizon asserts that all rights in the '344 patent have been acquired by a wholly owned subsidiary named Services Corp. *See* Defendant's Answer to First Amended Complaint and Counterclaims at 15, Tivo, Inc. v. Verizon Commc'ns, Inc., No. 2:09-CV-257-DF (E.D. Tex. 2010). The USPTO assignment database shows no patents assigned to "Services Corp." *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Services Corp").

[47] *Value-Added Solutions & Services*, INTELLECTUAL VENTURES, http://www.intven.com/ProductsServices/Licensing/ValueAddedProducts.aspx (last visited Dec. 5, 2011.).

[48] Vlingo also had two purchased patents, one from RPX and one from Nuance.

[49] Intellectual Ventures Moblcomm 1 LLC sold US Patent No. 5,680,388 to Apple, Inc. on March 7, 2011. The patent was originally owned by mobile telephony pioneer TeliaSonera. The patent, entitled "Method and Arrangement for Dynamic Allocation of Multiple Carrier-Wave Channels for Multiple Access by Frequency Division of Multiplexing" pertains to a level of telecommunications infrastructure not likely to have emerged from Apple's own organic R&D programs. The patent does not yet appear to be involved in the emerging smartphone patent wars. *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5680388").

[50] One Intellectual Ventures executive told one of the authors that the option to repurchase was a term of the Verizon deal, but we have not been able to independently verify this.

Ventures and Xilinx in 2011, it was interesting to note that Xilinx itself is listed as an Intellectual Ventures investor.

¶53 Xilinx had filed a declaratory judgment suit against Intellectual Ventures after Intellectual Ventures sued three of Xilinx' competitors. One cannot help but wonder what might have transpired between Intellectual Ventures and its investors that led the parties to litigation under these circumstances. No information is available, but one could imagine that the following might have happened. Perhaps Xilinx's agreement with Intellectual Ventures includes that Xilinx purchases both an interest in the Intellectual Ventures investment fund and a license to use some of Intellectual Ventures' patents on a true-up basis. If the license royalty is based on sales data from Xilinx, and Intellectual Ventures began to doubt that Xilinx was properly reporting its data or to dispute that data, one could see the infringement suits against Xilinx's competitors as serving a dual purpose. The suits have the potential to both bring in settlement money from Xilinx's competitors and to send a message to Xilinx that Intellectual Ventures has confidence in its patents and is serious about its demands. Under that scenario, the Xilinx suit, in which Xilinx asks the court to declare the Intellectual Ventures' patent either invalid or not infringed by Xilinx, coupled with a Xilinx discovery request that has the effect of publicly revealing a list of the Intellectual Ventures investors, can be seen as Xilinx's cannon shot reply.

1. Capital Returns

¶54 One of the most striking figures to consider is the amount of revenue Intellectual Ventures will need to generate if it is going to operate successfully in the venture capital model it has selected for itself, paying acceptable profits to its investors as well as its principals. In particular, Intellectual Ventures defines itself in comparison to venture capital and private equity firms. Venture Capital firms typically must provide profits to their investors that substantially exceed those of other investments in order to be considered successful. Venture capital funds tend to be extremely illiquid, with lifetimes of approximately 7-10 years during which the investor's capital is often unavailable. This illiquidity is one justification for higher expected returns than the returns from more liquid investments.

¶55 None of Intellectual Ventures' network of companies is public, and Intellectual Ventures has not precisely distinguished publicly which part of its corporate network is the "VC firm/fund" part and which part is the "VC investment" part. The typical venture capital company invests in unrelated businesses whose origin does not trace back through to the general partners who created the investment fund. In the absence of an explanation, we will assume that the VC fund part comprises shell companies like the Invention Investment Fund I LP, and the VC investment part comprises patent-owning shell companies like Ferrara Ethereal LLC. We are also uncertain if any restrictions have been placed on the ability of the limited partners (the investors) in the VC fund portion to sell their shares to third parties. In the absence of being listed on a public exchange, even if these shares can be sold, they are less liquid than shares in public companies and may possibly have additional restrictions that render them even more illiquid.

¶56 Myhrvold, Detkin, and other Intellectual Ventures executives have repeatedly described the company as a venture capital or private equity company operating in the intellectual property rights space. Given the comparison that Intellectual Ventures has chosen for itself, combined with the well-heeled investors the company has drawn, and in consideration of the other investments these investors could have made instead, one could presume that the institutional investors assumed that Intellectual Ventures intends to pay them profits at least comparable to those of a successful venture capital or private equity firm. Some of the institutional investors may also have been intrigued with intellectual property rights as an asset class in a diversified portfolio.

¶57 The minimum return, given the risk and illiquidity that investors in venture capital or private equity firms expect in the United States is approximately 20%, especially in the era preceding the financial crisis when many of Intellectual Ventures' funds were raised. In Intellectual Ventures' case, this may well be a very conservative number. Investors often look for comparable investments in

determining risk. Acacia Research Corp., a public patent rights licensing company and therefore more liquid than a typical VC investment, probably provides the closest comparable to an investment in Intellectual Ventures. During the 2002-2007 time period, when many of Intellectual Ventures' funds were likely being raised, Acacia's shares grew more than 30% per year on average without any consideration of dividends paid by Acacia which would also be part of its value growth. Over the 2002-2011 time period, Acacia's shares grew by even more. All things being equal, one might expect that a rational investor would choose to make a more liquid and less risky investment in Acacia's stock, than an illiquid and riskier investment in Intellectual Ventures—unless Intellectual Ventures had the promise of substantially greater returns. Nevertheless, we will use a conservative 20% return for our calculations of Intellectual Ventures' minimum expected return to investors. Intellectual Ventures has said that of the money it makes from the investors' capital, it intends to keep 20% of the profit for itself as carried interest and that it will also charge a 1-2% management fee calculated as a percentage of capital raised. We will use the figure 1.5% as an average management fee for simplicity. Therefore, the total expected minimum revenue needed to generate anticipated profits for the investors and Intellectual Ventures as well as paying the management fees would need to be a little over 25% per year.

¶58 Although the length of investment is an unknown parameter, assume a 10-year investment lifetime, which is not uncommon in the venture capital world.[51] Combining these parameters with $5 billion in investment would yield a lifetime revenue expectation for all the funds of roughly $40 billion to be considered a minimally successful investment. This calculation assumes that investors receive the profits at the end of the fund's lifetime. If one assumes that the funds have lifetimes longer than 10 years, then the revenue expectations grow substantially larger. If, for example, Intellectual Ventures has pegged the revenue expectations at the 20-year lifetime of a patent, the lifetime expectation for the funds jumps to a minimum of $244 billion in order to generate the expected profits and cover management fees and capital costs.

¶59 These calculations assume that all of Intellectual Ventures' $5 billion in investment commitments have actually been received and invested by the company. Intellectual Ventures has been somewhat coy about how much of the $5 billion it has actually received. If it receives just $1.5 billion from investors (a mere 30% of the reported commitments), then the 10-year revenue expectations still amount to $12 billion,[52] an amount comparable to the amount that IBM will receive from intellectual property rights royalties over the same time period.[53]

E. Collecting Revenue: Privateering & Other Exploits

¶60 Intellectual Ventures claims to have collected approximately $2 billion in licensing fees so far, based on the company's disclosures and recent licensing deals.[54] Most large-scale IP licensing today exists only among very large technology companies, and this is consistent with Intellectual Ventures' licensing efforts at this point. Myhrvold, however, told the Wall Street Journal in 2008, that the company ultimately plans to sign up hundreds or even thousands of companies as patent licensees.

¶61 Intellectual Ventures has recently begun describing its services as bridging "the invention gap." So, in a delightful metaphorical twist, the ugly troll under the bridge now works to help the goats over the stream (although the goats presumably still tender a cash award to the helpful troll).

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[51] Venture capital firms generally require long-term investments in which the investor does not expect returns for 7-10 years. *FAQ,* NATIONAL VENTURE CAPITAL ASSOCIATION http://www.nvca.org/index.php?Itemid=147&id=119&option=com_content&view=article (last visited Nov. 15, 2011). There is a 20% minimum venture capital fund return. *See* BASIL PETERS, EXIT STRATEGIES FOR ANGEL INVESTORS 19 (2009), http://www.basilpeters.com/Presentations/Exit_Strategies_for_Angel_Investors_20090415_Part_1.pdf.

[52] $1.5 billion would presumably be expected to generate $153 billion over a 20-year period.

[53] As a comparison, Intellectual Ventures has fewer than 800 employees; IBM has 427,000 employees.

[54] Intellectual Ventures' Licensing Overview Data Sheet for July, 2011 indicates they have collected $2 billion in licensing revenue. *Global Licensing Overview*, INTELLECTUAL VENTURES, http://www.intellectualventures.com/Libraries/General/Licensing_Overview_Data_Sheet_July.sflb.ashx (last visited Nov. 15, 2011).

¶62 Until recently, Intellectual Ventures used third parties to carry out much of its litigation activities. The technique is reminiscent of the historic practice known as privateering. Privateering was an extremely effective and troubling method of waging war, which was finally abolished by treaty in 1856.[55] It allowed governments to issue a "letter of marque and reprisal" to private parties, which allowed their ships to 1) capture any ships carrying the enemy's flag, 2) sell the ship and cargo at auction, and 3) keep the proceeds. Privateering allowed governments to enlist private parties in their aggressive activities so that the country could wage war with no impact on the treasury.

¶63 With Intellectual Ventures' version of privateering, the company sells a patent to a more aggressive licensing company, retaining a license for the Intellectual Ventures investors. The new owner is free to sue or license anyone not covered by the previous owner. The approach allows Intellectual Ventures to profit indirectly from the litigation without engaging in the expenditures or the risks of litigation.

¶64 Privateering could be a very effective way of nudging reluctant licensees in the following manner. An aggregator approaches a company, and demands that the company license one of the aggregator's patents. When the company demurs, the aggregator sells the patent to an aggressive third party, who sues for a far higher license value. The aggregate then approaches the company again, this time demanding that the company license a different one of the aggregator's patents. This time, the company may be much more compliant.

¶65 The approach could also be used to prod one's own licensees to toe the line, as speculated with the Xilinx circumstances above. Specifically, if the licensee must make payments to the aggregator based on the licensee's sales volume, and the aggregator believes that the licensee is being less than candid, the aggregator could sponsor an aggressive action by one of its proxies against a competitor of the licensee as a way to demonstrate potential consequences to its recalcitrant licensee. This approach would be reminiscent of the old Chinese adage of "kill the chicken to frighten the monkey."

¶66 While we do not know the deal terms, we did, however, find many examples of Intellectual Ventures using third-party proxies to litigate infringement claims against companies who appear to be likely licensing targets for large portions of Intellectual Ventures' portfolio. In particular, many of the patents sold by Intellectual Ventures have ended up in litigations brought by their new acquirers. Patents formerly owned by apparent Intellectual Ventures shells Viviana LLC,[56] Gisel Assets KG LLC,[57] Kwon Holdings Group LLC,[58] SF IP Properties 24 LLC,[59] Ferrara Ethereal LLC,[60] and Mission Abstract Data LLC[61] have been employed in patent infringement litigations respectively brought by the purchasers Picture Frame Innovations LLC,[62] Patent Harbor LLC,[63] Oasis Research

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[55] One of the authors has previously discussed the similarity between historic privateering and the activities of modern non-practicing entities. *See generally* Thomas L. Ewing, *Indirect Exploitation of Intellectual Property Rights by Corporations and Investors: IP Privateering & Modern Letters of Marque & Reprisal*, 4 HASTINGS SCI. & TECH. L.J. (forthcoming Winter 2011). The treaty abolishing privateering is the Declaration Respecting Maritime Law. Declaration Respecting Maritime Law, U.K.-France, April 16, 1856, *available at* http://www.icrc.org/ihl.nsf/INTRO/105?OpenDocument.

[56] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Viviana").

[57] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Gisel Assets").

[58] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Kwon Holdings").

[59] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "S.F. IP Properties 24").

[60] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Ferrara Ethereal").

[61] See USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Mission Abstract"), and subsequent assignment from Intellectual Ventures Audio Data LLC. Intellectual Ventures also continues to sell patents, such as the recent sale from Intellectual Ventures' Sinon Data LLC to Personal Voice Freedom LLC, a company apparently associated with Charles Eldering's Technology, Patents, and Licensing Inc.

[62] *See, e.g.*, Picture Frame Innovations, LLC v. Eastman Kodak Co., No. 1:2009-CV-04888 (N.D. Ill. filed Aug. 10, 2009). (Intellectual Ventures generally denies publicly having any involvement in this litigation. Nevertheless, we note that in the litigation, Kodak argued that Picture Frame lacked the right to sue, given rights in the patent retained by Viviana and/or Intellectual Ventures. Kodak's counsel termed the Picture Frame's agreement "a hunting license" in motions filed before the court. The case

LLC,[64] InMotion Imagery Technologies, LLC,[65] Webvention LLC,[66] and Mission Abstract Data LLC.[67] These litigations have been brought against companies such as Kodak, Hewlett Packard, Samsung and CBS Radio. Don Merino, senior vice president of licensing at Intellectual Ventures has said the sales were a logical step for the company and essentially denied that they related to privateering.[68] "I have enough of a set of assets where it just makes sense to start turning inventory," he told Dow Jones in a 2010 interview.[69] Selling expiring assets makes perfect business sense, of course. Nevertheless, the technique could be used, both to maximize aggressive litigation returns while attempting to stay at arm's length, as well as reinforcing the message to one's own license targets that cooperation is the better strategy.[70] In addition, when the extent of the patent portfolio is unclear, the technique could be used to hint to targets that the patent being offered for licensing is only one piece of a more extensive portfolio in that area.

¶67 In another example of using third parties for infringement litigation, Avistar Communications sold a group of 41 patents and applications to Intellectual Ventures Fund 61 in December of 2009 for $11 million.[71] In June of the following year, Intellectual Ventures re-sold these patents to Pragmatus.[72] Five months later, Pragmatus used three of these patents to sue Facebook, YouTube, LinkedIn, and PhotoBucket.com for patent infringement.

¶68 Pragmatus has also filed infringement lawsuits against the major United States cable companies, including Time Warner Cable, Cox Cable, Charter Communications, and Comcast, for infringement of two additional patents that were acquired from Intellectual Ventures prior to that lawsuit.[73] An Intellectual Ventures shell company had acquired these patents in 2007 as part of a larger patent lot purchased at an Ocean Tomo patent auction for $3.025 million.[74] While Intellectual Ventures probably does not own Pragmatus, it is not presently clear if Intellectual Ventures sold the patents for a lump sum cash payment or whether it is entitled to receive a percentage of the commercialization profits, including patent infringement damage awards and settlements. Deal terms comprising an upfront cash payment plus a revenue share seem fairly common in the patent marketplace generally.[75]

¶69 The activities described above are only some examples of Intellectual Ventures' transfers to third parties for the purpose of intellectual property rights exploitation through litigation and/or licensing that we came across.[76] We suspect there may be many more examples.

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settled in January of 2011 without rulings on Kodak's motions, and the terms of the settlement have not been made public.)

[63] *See, e.g.*, Patent Harbor, LLC v. LG Electronics, Inc., No. 6:2010-CV-00436 (E.D. Tex. filed Aug. 20, 2010).

[64] *See, e.g.*, Oasis Research, LLC v. Adrive, LLC, No. 4:2010-CV-00435 (E.D. Tex. filed Aug. 30, 2010).

[65] *See, e.g.*, InMotion Imagery Tech., LLC v. JVC Ams., Corp., No. 2:2010-CV-00474 (E.D. Tex. filed Nov. 10, 2010).

[66] *See, e.g.*, Webvention LLC v. Adidas Am. Inc., No. 2:2010-CV-00410 (E.D. Tex. filed Oct. 5, 2010).

[67] *See, e.g.*, Mission Abstract Data LLC v. Beasley Broad. Grp. Inc., No. 1:11-CV-00176-LPS (D. Del. filed Mar. 1, 2011). Note that a Rule 7.1 filing in *Mission Abstract Data* states that the sole owner of this plaintiff is Digimedia Holdings, LLC, a Delaware entity formed in January, 2011 just a few weeks prior to the assignment of patents from Intellectual Ventures Audio Data LLC. One could conclude that Mission Abstract Data has different owners now than it did prior to the transaction with Intellectual Ventures Audio Data LLC. Mission Abstract Data LLC was formed as a company in April, 2007.

[68] Stuart Weinberg, *Intellectual Ventures Patent Divestitures Continue*, DOW JONES NEWSWIRES, Feb. 24, 2010; *see also* Tom Ewing, *Introducing the Patent Privateers*, 45 INTELL. ASSET MGMT. 31, 36 (2011).

[69] Weinberg, *supra* note 68.

[70] While discussing the merits of litigation versus licensing, Peter Detkin said, "litigation is a highly inefficient way to do licensing. But let's not lose sight that litigation is just licensing by other means." Blumberg & Sydell, *supra* note 5.

[71] According to Avistar's SEC filings, the complete transaction involved 99 US and foreign patents and 26 pending applications worldwide. Avistar Commc'ns, Annual Report (Form 10-K), Exhibit 10.39 (Mar. 30, 2010).

[72] These are the only patents whose ownership has been recorded to Pragmatus.

[73] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5581479" and "5636139") (showing patent rights passing from Lot 20 to Intellectual Ventures to Pragmatus).

[74] *See Highlights of Ocean Tomo Spring 2007 Intellectual Property Auction*, WINSTON & STRAWN LLP (May 2007), http://www.winston.com/siteFiles/publications/Ocean_Tomo.pdf (disclosing that maximum lot price was $3.025 million); *see also supra* note 73.

[75] Peter Detkin said, "We sell for some amount of money up front, and we get some percentage of the royalty stream down the road that is generated from these assets." Blumberg & Sydell, *supra* note 5.

[76] *See, e.g.*, InMotion Imagery Tech., LLC v. Notorious Prods., Inc., No. 2:2011-CV-00415 (E.D. Tex. filed Sept. 15, 2011);

¶70 After primarily using third parties to file infringement litigations, Intellectual Ventures began suing companies directly in December 2010. On a single day, Intellectual Ventures filed three large patent litigations: one against a group of software security companies, one against DRAM and flash memory manufacturers, and one against field programmable gate array (FPGA) manufacturers.[77] The company has filed additional infringement suits against the parties in other jurisdictions including the International Trade Commission.

F. Other Mass Aggregators & Interconnections

¶71 Intellectual Ventures' success in raising capital has led to the creation of a number of smaller versions of the company. We will discuss a few such organizations briefly. It is unclear whether and to what extent Intellectual Ventures has partnered with these companies, but there are a number of striking connections and interactions among them. It is possible that Intellectual Ventures maintains ties to such other organizations as a way of lowering its exposure for various deals. In addition, with the amount of capital at Intellectual Ventures' disposal, it would make sense for the company to make some investments of its own.

1. Acacia Research Corporation

¶72 Acacia Research Corporation likely represents the first modern mass aggregator. Acacia is the largest publicly traded patent-licensing company, and has executed more than 1,000 license agreements across 104 of technology licensing programs.[78] The company's operating subsidiaries (a suite of limited liability companies) own or control the rights to more than 180 patent portfolios.[79] These portfolios relate to technologies from consumer electronics to automotive technologies and from medical devices to security technologies. Acacia's licensees include companies as diverse as 3M, Microsoft, Mitsubishi, Bloomberg, Nokia, and the Walt Disney Company.[80] Acacia recently began a turnkey licensing program for operating companies whose operations now include licensing more than 40,000 patents owned by Renesas, the world's third-largest semiconductor company.[81]

¶73 Acacia has been among the most litigious of the non-practicing entities. According to one report, the company and its subsidiaries have been plaintiffs in 280 patent lawsuits and defendants (presumably from declaratory judgment actions) in still more litigations.[82] Early Acacia licensing assertions related to a portfolio of patents relating to audio and video transmission and receiving systems, commonly known as audio-on-demand and video-on-demand.

InMotion Imagery Tech., LLC v. LFP Video Group, LLC, No. 2:2011-CV-00261 (E.D. Tex. filed May 19, 2011); Patent Harbor, LLC v. Dreamworks Animation, Inc., No. 6:2011-CV-00229 (E.D. Tex. filed May 9, 2011); Patent Harbor, LLC v. Twentieth Century Fox Home Entm't, LLC, No. 6:2010-CV-00607 (E.D. Tex. filed Nov. 16, 2010); Patent Harbor, LLC v. Audiovox Corp., No. 6:2010-CV-00361 (E.D. Tex. filed July 21, 2010); InMotion Imagery Tech., LLC v. Penthouse Digital Media Prods., Inc., No. 2:2010-CV-00084 (E.D. Tex. filed Mar. 10, 2010). We have not checked all of Intellectual Ventures' 11,000 US patents to see which ones have been sold to third parties, but we suspect that Intellectual Ventures has sold more patents than the ones identified here.

[77] Intellectual Ventures I LLC v. Canon Inc., No. 1:2011-CV-00792 (D. Del. filed Sept. 9, 2011); Intellectual Ventures I LLC v. Altera Corp., No. 1:2010-CV-01065 (D. Del. filed Dec. 8, 2010); Intellectual Ventures I LLC v. Hynix Semiconductor Inc., No. 1:2010-CV-01066 (D. Del. filed Dec. 8, 2010).

[78] *See* Acacia, Quarterly Report (Form 10-Q) (June 30, 2011), *available at* http://www.sec.gov/Archives/edgar/data/934549/000093454911000016/actg10q063011.htm.

[79] *Id.* (noting that "Acacia's only identifiable intangible assets at June 30, 2011 and December 31, 2010 are patents and patent rights. Patent-related accumulated amortization totaled $33,058,000 and $31,198,000 as of June 30, 2011 and December 31, 2010, respectively.").

[80] *Investment Profile*, ACACIA RESEARCH CORP. (October 2011), http://www.acaciatechnologies.com/docs/AcaciaFactSheet.pdf ((last visited Nov. 15, 2011).

[81] Press Release, Renesas Electronics And Acacia Research Enter Into Strategic Patent Licensing Alliance (Aug. 24, 2010), *available at* http://www.renesas.com/press/news/2010/news20100824.jsp. (Renesas is an entity formed by the merging of the semiconductor businesses of three Japanese companies—Hitachi, Mitsubishi, and NEC.)

[82] Daniel P. McCurdy, *Patent Trolls Erode the Foundation of the U.S. Patent System*, SCIENCE PROGRESS (Jan. 12, 2009), http://scienceprogress.org/2009/01/patent-trolls-erode-patent-system/.

¶74 Acacia[83] has been a public company for nearly 10 years, and counts among its investors household mutual fund managers like Oppenheimer Funds, Fidelity, and the Vanguard Group.[84] The company's stock has generally followed a steadily upward trend. From the beginnings of public trade in the ACTG stock on Dec. 17, 2002, the shares have risen from $1.85/share to $40.28/share by Sept. 27, 2011, representing a 36%/year rise over the 2002-2011 period.[85]

¶75 Acacia, which began operations in 1993, initially had two branches, one branch that made products and another branch that licensed patent rights, initially to V-chip technology.[86] Over time, the product-making side of the company, which produced a system for rapid creation of DNA and other compounds on a programmable semiconductor chip, has somewhat diminished in significance.

¶76 In August 2010, a wholly owned subsidiary of Acacia became the general partner of the Acacia Intellectual Property Fund, L.P. (the "Acacia IP Fund"), which was formed in August 2010. The Acacia IP Fund is authorized to raise up to $250 million.[87] The Acacia IP Fund aims to follow in the patent-licensing work that Acacia has pioneered.

2. Transpacific IP Ltd.

¶77 Transpacific IP Ltd. began operations in Taiwan in 2004 and has expanded to include offices in Hong Kong, Beijing, Tokyo and Singapore. Unlike the typical intellectual property aggregator, Transpacific seems to have kept a very low profile with a fairly nondescript website and only a few news stories about the company.

¶78 Despite its low profile, the company has amassed a portfolio of more than 3,000 US patents and applications.[88] The company has purchased these patents from Asian companies as well as US companies. It is possible that Transpacific and Intellectual Ventures conducted some sort of business arrangement with each other in late 2007 or early 2008, although the terms and the timing are unclear. During this time period, a number of Transpacific's patents seem to have shifted to new intellectual property attorneys who also appear to represent Intellectual Ventures for patent prosecution matters.

¶79 We initially found Transpacific while searching for Intellectual Ventures shell companies but concluded that Transpacific is probably not an Intellectual Ventures shell, given that it seems to have its own corporate identity. Transpacific's corporate structure seems to resemble that of Intellectual Ventures but in miniature, including a number of shell companies of its own.

¶80 Intellectual Ventures has purchased patents from Transpacific and its shells. For example, two of the patents Intellectual Ventures is using in its spate of direct infringement lawsuits filed at the end of 2010 were purchased from Transpacific.[89] The transaction was characterized as a merger in documents filed with the USPTO.

¶81 We noted above that Transpacific and Intellectual Ventures often share the same patent counsel. The sharing is so close that in one instance, a patent practitioner mistakenly filed a power of attorney signed by a Transpacific representative in the prosecution file for a seemingly unrelated Intellectual

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[83] Trading as ACTG on the NASDAQ exchange.

[84] *See Shareholders Major ACTG Acacia Research Corporation Shareholders*, MORNINGSTAR, http://investors.morningstar.com/ownership/shareholders-major.html?t=ACTG&region=USA&culture=en-us (click tab for "Institutions").

[85] This rise does not include any dividends paid during this period. *See* Acacia Research (ACTG) from Dec. 16, 2002 to Sept. 27, 2011, GOOGLE FINANCE, http://www.google.com/finance/historical?cid=681024&startdate=Jul%205%2C%202001&enddate=Oct%204%2C%202011&num=30&start=2220# (last visited Nov. 15, 2011).

[86] *See, e.g.*, *Acacia Technologies Licenses Digital Media Transmission Technology to NXTV*, ACACIA RESEARCH (Jan. 2, 2004), http://www.acaciaresearch.com/pr/010204NXTV.pdf.

[87] Acacia, Quarterly Report (Form 10-Q) (Nov. 1, 2010), *available at* http://biz.yahoo.com/e/101101/actg10-q.html.

[88] Plus an even greater number of non-US patents/applications.

[89] Intellectual Ventures I LLC v. Altera Corp., No. 1:2010-CV-01065 (D. Del. filed Dec. 8, 2010); Intellectual Ventures I LLC v. Hynix Semiconductor Inc., No. 1:2010-CV-01066 (D. Del. filed Dec. 8, 2010); USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "6260087" and "5687325") (showing Transpacific's involvement in the assignment of these patents to Intellectual Ventures).

Ventures shell company, a mistake one would not expect to see with completely unrelated portfolios.[90]

3. RPX

¶82 John Amster founded RPX in September 2008. Just prior to founding the company, Mr. Amster was Intellectual Ventures' general manager of strategic acquisitions and vice president of licensing. RPX's business model is to buy potentially problematic trolling patents and then license those patents to its members. Thus, the company's members can head off the problems of intellectual property infringement litigation for a fraction of the cost. The company has grown rapidly, with annual revenues now in excess of $65 million. RPX held its initial public stock offering in 2011.

¶83 It is possible that some of Intellectual Ventures' investors wanted to participate in an aggregator that overtly operated as a patent defense fund, and a fund limited more to areas directly related to its investors' businesses and interests, and that RPX was formed to fill this market need. The patents that RPX acquires tend to be somewhat more along the lines of nuisance value patent than the patents that Intellectual Ventures acquires, and it is possible that the two companies may not often find themselves competing for the purchase of a given patent. At present, RPX has signed up approximately 65 technology companies, about half of which have either sold patents to Intellectual Ventures or have invested in Intellectual Ventures.[91]

¶84 RPX has spent over $300 million acquiring patents and controls them via several funds, such as RPX-LV Acquisition LLC and RPX-NW Acquisition LLC. However, while RPX licenses or buys patents for its current members, it does not always retain rights to these patents and acknowledges that the patents could later be used by other potentially litigious owners to bring suits against companies that were not members of RPX at the time in which it engaged in those licenses.[92] RPX subscribers apparently do not enjoy a perpetual license to patents owned by the firm until after a three-year licensing period, which may inhibit a member from leaving RPX as patents acquired inside the three-year window may become unlicensed.[93]

4. Round Rock Research

¶85 Round Rock Research, LLC holds a portfolio of more than 3,400 US patents. All of these patents were acquired from Micron Technology in December 2009 and collectively represent roughly 20% of Micron's total patent assets. The company was incorporated in Delaware nearly a year before it was publicly announced that John Desmarais, a prominent US patent litigator, would lead the company.[94] It was also formed nearly a year before the 3,400 patents were transferred from Micron to Round Rock.

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[90] The power of attorney filed for US Patent No. 7,427,742 on Sept. 2, 2010 is for Tang Sung Capital, a TransPacific IP shell, when the correct owner of the patent is Intellectual Ventures' shell Buvane Holdings. A power of attorney for Buvane was filed in the case on Jan. 11, 2011. We note that nothing in the assignment history for the '742 patent indicates that it was ever owned by a TransPacific shell. In contrast, IV has done numerous transactions with Cypress Semiconductor, the patent's previous owner. Thus, it would seem that the patent prosecutor was simply confused about which power of attorney paper to file, a mistake that does not often arise in completely unrelated portfolios.

[91] RPX Corp., Final Prospectus (Form 424B4) (Sep. 16, 2011).

[92] In other words, if I am a company and I am worried about a troublesome patent that could be used against me, RPX can buy the patent and transfer the patent to a troll reserving a license for all RPX investors. The troll is then free to go after non-RPX investors, presumably their competitors. According to RPX, "in nearly a third of our transactions, we acquire rights only for our clients, and we have already begun to sell patents. Those joining later may not get the full benefit of licensing to our broad portfolio that our earlier clients enjoy." *FAQs*, RPX CORP., http://www.rpxcorp.com/index.cfm?pageid=23 (last visited Nov. 15, 2011).

[93] *See* Order No. 40, Initial Determination Granting Joint Motion to Terminate Investigation as to Respondent Performance Designed Products LLC, 2011 WL 4438273 (U.S. Int'l Trade Comm'n, 2011) (Inv. No. 337-TA-773) (Appendix A contains a redacted version of a template RPX license, and the language above is found in Section 2.1(c).); Order No. 11, Initial Determination Granting Joint Motion to Terminate Investigation as to Vivitek, 2011 WL 2677777 (U.S. Inter'l Trade Comm'n, 2011) (Inv. No. 337-TA-773) (Appendix A contains another redacted version of a template RPX license, and the language above is also found in Section 2.1(c)).

[94] After hearing the definition of "privateer," Desmarais conceded that he was one, adding, "I've been called worse things." John Desmarais, Round Rock Research, Comment made during the privateering portion of a panel discussion entitled "The Developing NPE Market" at the Intellectual Property Business Congress in San Francisco (June 20, 2011). Just prior to this

¶86 Micron has not made a formal filing with the SEC regarding the large patent sale to Round Rock or issued a press release about it. Curiously, Micron's annual disclosures to the SEC from 2007-2010 report a consistent figure for the number of patents held by the company and show no drop in the number of patents owned. Nevertheless, in litigation filings, Round Rock says that it has no parent company and that no publicly held company owns 10% or more of its stock. This has raised questions as to who owns Round Rock and/or who financed the sale.[95]

¶87 Desmarais is the only public face for Round Rock.[96] One could estimate that the value of 3,400 Micron patents probably approaches or exceeds a hefty fraction of $1 billion,[97] which is seemingly a larger sum than even a successful patent litigator would likely be able to muster from his own resources.

¶88 Suggesting a connection between Round Rock and Intellectual Ventures would be speculation, but we do note an interesting number of intersections between the people involved in each entity. For example, Desmarais is the litigator for the patent infringement lawsuit that Intellectual Ventures has filed against the field programmable gate array manufacturers. He is also the litigator for one of the Pragmatus cases filed using patents formerly owned by Intellectual Ventures, as well as the litigator for Oasis Research, a possible Intellectual Ventures privateering operation. Melissa Finocchio, Intellectual Ventures' chief litigation counsel, was formerly the head of the litigation department at Micron. In addition, Samsung has reportedly signed separate licensing agreements in 2010 with Round Rock, Micron Technology, and Intellectual Ventures.[98]

II. POTENTIAL POSITIVE EFFECTS

¶89 We will begin by examining the potential positive effects that mass aggregators could bring. What opportunities are presented or failures are remedied by their appearance in the market? What positive implications do these effects have for innovation or for individual players in the world of invention?

A. The Forgotten Inventor

¶90 In a perfect world, there might be no role for mass aggregators. An inventor, incentivized by the rewards available through the patent system, creates an invention bringing forth the idea for all to see and benefit from. The inventor either manufactures a product resulting from the invention or licenses the invention to others for manufacture. Those who want to enter a particular commercial space, thoroughly scour the record of patents granted to determine whether they must obtain rights from any patent holders. If rights are needed, the parties willingly negotiate a license and the product goes forward. At the end of the day, inventors are rewarded for the innovations they bring to the field, and society benefits from the introduction of new products and ideas.

¶91 The patent system, however, is far from perfect, and the pathway from invention to patent to product is unlikely to be so simple, direct, or focused on patent law. Ideas and information can permeate intellectual exchanges, particularly in fields where academic research plays an important

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comment, Desmarais and the other attendees had heard a discussion of privateering that included a Powerpoint slide that defined "privateering" as "The assertion of IPRs by an entity (the privateer), typically in the form of an NPE, against a target company for the direct benefit of the privateer and the consequential benefit of a sponsor company, where the consequential benefits exceed the direct benefits."

[95] *See, e.g.*, Round Rock Research v. HTC Corp., No. 1:10-CV-00840-UNA (D. Del. filed Oct. 10, 2010).

[96] Desmarais, *supra* note 94.

[97] The Nortel patent auction was completed on July 1, 2011 for $4.5 billion and comprised a comparable number of patents albeit in a different technical subject. Nortel Networks Corp., Current Report (Form 8-K) (July 1, 2011), *available at* http://www.sec.gov/Archives/edgar/data/72911/000119312511179790/d8k.htm.

[98] Round Rock is to some extent the successor to Keystone Technology Solutions, LLC. Keystone was closely tethered to Micron and may well have been wholly owned by Micron. Many of Round Rock's patent assets began as Micron properties, were transferred to Keystone, transferred back to Micron, and then transferred to Round Rock. Keystone does not appear to have had any employees who were not also Micron employees.

role. Such ideas may skip lightly along a discussion pipeline, moving around unmoored from their intellectual property tethers. Producers may incorporate ideas unconsciously, failing to recognize that the inspiration or credit belongs to someone else. In another scenario, a producer develops the idea through independent creation often completely unaware that someone else was technically "first" with the idea but maybe not with the product. Numerous researchers and inventors may be working on similar issues at the same time, as they try to push through the barriers at the edge of a field. A great invention may fail (initially) as a commercial product because other, unrelated but nevertheless enabling technologies, are themselves too immature to support a successful commercial product. Later, when the enabling technologies mature, the later innovators may be completely unaware that someone else pioneered similar products but failed commercially.[99]

¶92 In theory, the producer should be able to search for relevant patents and arrange necessary licensing, but in the real world, this description is no more than a convenient myth. Many patent attorneys actively counsel their clients not to look at issued patents for fear of their client being put on notice, which risks the beginnings of a damage calculation plus the possibility of additional damages due to willfulness;[100] many corporations have adopted similar firm-wide directives. Limited resources at the Patent and Trademark Office sometimes thwart patent examiners from screening out bad patents and weak claims. With roughly 2 million active US patents,[101] identifying all potentially relevant patents is tremendously challenging. Moreover, it is difficult, if not impossible, to know in advance how broadly a patent will be interpreted and whether a particular patent claim will be upheld.[102] Much of this uncertainty stems from the fact that the metes and bounds of the patent, when enforced, are determined by the court through the process of claim construction, a process that is notoriously unpredictable.[103] In a classic example of the problem, two recent litigations happening at the same time within the same district court produced different constructions of the same claim term.[104]

¶93 Even when a producer has diligently acquired all the licenses that appear to be needed, a new party may appear. In a problem known as patent stacking, producers find themselves paying out ever-greater amounts of their revenue to a theoretically unlimited number of patent holders. There is no law, rule, or guideline that necessarily limits the aggregate number of intellectual property licenses for a product to a fixed percentage of revenue, and it is theoretically possible for the collective amount of royalties to exceed 100% of revenue.[105]

¶94 In short, the patent system works just fine for generating patents but stumbles in rights licensing.[106] Some producers take licenses from aggressive licensors whose patents may not be

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[99] One example of this phenomenon played out in *NTP v. RIM*, 418 F.3d 1282 (Fed. Cir. 2005).

[100] 35 U.S.C. § 284 (2011) ("[T]he court may increase the damages up to three times the amount found or assessed.").

[101] According to the World Intellectual Property Organization, there were 1,930,631 active patents in the United States in 2009. *Statistics on Patents*, WORLD INTELLECTUAL PROPERTY ORGANIZATION, http://www.wipo.int/ipstats/en/statistics/patents/ (last visited Nov. 15, 2011).

[102] John M. Golden, *Construing Patent Claims According to Their "Interpretive Community": A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 324-25 (2008); Amber H. Rovner, *Canons of Patent Claim Construction*, 873 PLI/PAT 85, 130 (2006) ("If one thing is certain . . . it is that claim construction is inherently uncertain.") (internal quotation marks omitted); ROBIN FELDMAN, RETHINKING PATENT RIGHTS (forthcoming 2012).

[103] For commentary on the uncertainty of claim construction, and thereby claim scope, see, e.g., Gretchen A. Bender, *Uncertainty and Unpredictability in Patent Litigation: The Time is Ripe for a Consistent Claim Construction Methodology*, 8 J. INTELL. PROP. L. 175, 203-07 (2001) (noting that the Federal Circuit changed lower courts' claim interpretations in about 40% of cases between 1996 and 2001, which indicates a large degree of uncertainty for inventors and practitioners); Matthew Sag & Kurt Rohde, *Patent Reform and Differential Impact*, 8 MINN. J. L. SCI. & TECH. 33-35 (2007) (noting that the Federal Circuit's failure to adopt a consistent methodology for claim construction has created "significant doctrinal instability and confusion in the lower courts"); R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L . REV. 1105, 1161-63 (2004) (analyzing the Federal Circuit's decisions involving claim interpretation from 1996 to 2002 and finding a pattern of panel-dependent outcomes, as well as variability in the choice of methods used in claim construction by individual judges). *See also* Jeffrey A. Lefstin, *The Formal Structure of Patent Law and the Limits of Enablement,* 23 BERKELEY TECH. L.J. 1141, 1168 (2008) (offering that, due to the formalist structure of patent law, all claims are infinite in scope).

[104] *See* Arlington Indus. v. Bridgeport Fittings, Inc., 632 F.3d 1246, 1248 (Fed. Cir. 2011).

[105] Eleven patent holders each entitled to 10% of gross revenue would amount to 110% of revenue.

[106] And may stumble even further in fulfilling its ultimate *raison d'etre* in society.

infringed while other producers play games to avoid licensing rights from parties whose patents probably are infringed. It's a hard knock life for the small inventor and the forthright producer.[107]

¶95 Even when the proper parties do identify each other, information gaps, valuation difficulties, and other transaction obstacles may prevent consummation of a deal. Plagued by boundless uncertainty, insufficient information, and high transaction costs, the true patent system looks nothing like the idealized version.[108] Imagine a real property market where almost no comparable information is available. The sales price for the house next door is unavailable as is the sale price for the house two blocks away with an identical floor plan.[109]

¶96 In this world of imperfections, mass aggregators may provide a market mechanism for the forgotten inventor whose innovations are in use every day but who remains uncompensated. By creating a market for monetization of patents, mass aggregators might make it possible for individual inventors to find others who have the capital and expertise to identify and pursue claims against those who are producing products that infringe.

¶97 Compensating existing inventors does not increase the store of available products or necessarily fund further innovation. One could argue, nevertheless, that a market for patent monetization benefits innovation beyond simply providing cash for the patent holder. Inventors as a whole may be more likely to bring forth new inventions if the mechanisms for reward operate more effectively than the roulette wheel that inventors face today.[110]

B. The Middleman

¶98 In addition to the possibility of compensating forgotten inventors, one could argue that mass aggregators serve as a form of efficient middle man, a market intermediary who helps patents find their way to those who would exploit them to create new products. Inventors may not have the capital, expertise, or other necessary capacity to manufacture products. One could see the market for patent monetization as a matching system moving patents to those with proper production capacity.

¶99 Middleman systems do have some precedence in the world of innovation finance. Venture Capitalists have been known to set up incubators to help those with ideas bring them to fruition. The market for patent monetization could be another variant on the theme. One possibly stark difference, however, is that the patent aggregators work purely with patent legal rights and not with technology licenses. Similarly, they do not tend to push the direction of new creations but instead scoop up creations in areas of interest to them, which tend to be the "hot" technology areas of today and not the beneficial technologies of tomorrow. In short, there does not seem to be a technology aggregator who works to facilitate the spread of otherwise unknown information and know-how as opposed to spreading legal rights whose boundaries are set forth on publicly available websites and patent libraries.

¶100 As described above, Intellectual Ventures, if not the other mass aggregators, does have a laboratory set up like an incubator.[111] The problem with the notion of mass aggregators as middle men connecting innovators with production capital and capacity, is that for the most part, they do not seem operate that way. Very little mass aggregator activity appears to be of the middleman variety. Most activity seems to be focused on the interaction of existing patents with existing products. In short, the mass aggregators are not "technology push" in the sense of directing the

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[107] CHARLES STROUSE & MARTIN CHARNIN, *It's a Hard Knock Life*, *on* ANNIE (1977).

[108] Dan L. Burk & Mark A. Lemley, *Quantum Patent Mechanics*, 9 LEWIS & CLARK L. REV. 29, 53 (2005); Joshua S. Gans, David H. H. Hsu & Scott Stern, *The Impact of Uncertain Intellectual Property Rights on the Market for Ideas: Evidence from Patent Grant Delays*, 54 MGMT. SCI. 986-89 (2008), *available at* http://www.law.northwestern.edu/academics/searle/papers/Stern.pdf; Anne Kelley, *Practicing in the Patent Marketplace*, 78 U. CHI. L. REV. 115, 130 (2011).

[109] *See, e.g.*, Nathan Myhrvold & Mark Lemley, *How to Make a Patent Market*, 36 HOFSTRA L. REV. 257 (2007).

[110] We will discuss the 26-year "time lag" of patent exploitation and "To Serve Man" below.

[111] The lab, however, is a mere 27,500 square feet and tends to do little more than contract applied research in anti-malarial devices for the Bill and Melinda Gates Foundation. *Our Inventions*, INTELLECTUAL VENTURES, http://www.intellectualventures.com/OurInventions.aspx (last visited Nov. 15, 2011).

spark of creation for tomorrow's new products. Rather, their activities follow the pattern of scanning the horizon to pick out today's hot technology areas and then finding and securing orphaned and non-aligned patents that can be used to extract a return from today's products.

¶101 In theory, a market for patent monetization could operate as a type of exchange, where buyers and sellers can meet with lower transaction costs. Exchange markets, however, do invite arbitration and speculation, which does not always have a stabilizing economic influence. The speculative effects are multiplied by the extreme information asymmetries in the intellectual property rights markets in which some parties have access to extensive market information and other parties have little more than a gut feel. For this and other reasons, exchange systems tend to have a fairly extensive degree of regulation and supervision.

C. The Litigation Defense Fund

¶102 The most likely positive role for mass aggregators may be as a Litigation Defense Fund. The patent world is characterized by extensive bargaining.[112] Of particular relevance to the aggregator scenario, a company faced with an infringement claim may look at its own portfolio to see what patents can be asserted against the entity that is threatening them. In other words, suppose you sue me for patent infringement. If I have an extensive patent portfolio and can threaten to assert them against your products, you may be more willing to settle your infringement claim against me, or we may be able to work out a cross-licensing arrangement. I am much more vulnerable to infringement suits, both ones that are strong and ones that are weak, if I do not have appropriate patents to bargain with.

¶103 Wouldn't it be nice if one could find precisely the patent one needs at just the right moment? Mass aggregators seem to be organized to provide exactly that service. Recall for example, the Verizon scenario described above, in which Verizon purchased patents from the Intellectual Ventures portfolio to assert against TiVo as a counterclaim in TiVo's infringement litigation against Verizon.[113] This is reminiscent of the Just-In-Time inventory strategy, in which materials are purchased and products are made only as they are actually needed to meet customer orders.[114]

¶104 One can think of mass aggregators as allowing Just-In-Time patenting. When a company is sued for infringement or must enter into a negotiation to acquire rights from another entity, the company can shop for and acquire precisely the patents that could present a counter threat to the opposing party. When the litigation is complete, the patent can be returned. This type of strategy could ensure that a company has the comfortable freedom to operate vis-à-vis its competitors without worrying about patent suits that are the scourge of the modern patent world.[115]

¶105 In addition to the Verizon example, several other companies have successfully used this tactic to mitigate lawsuits brought against them.[116] Hewlett Packard, for example, filed an infringement suit against Acer in March 2007.[117] Acer, a Taiwanese company, subsequently bought several patents from a Taiwanese research organization,[118] and then asserted the patents in a countersuit against HP.[119] The lawsuit was settled by mid-2008.[120]

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[112] FELDMAN, *supra* note 102 (arguing that patents do not grant clear, definitive rights but rather serve as the beginning of the bargaining over the contours of those rights).

[113] See discussion at text accompanying *supra* note 46.

[114] *Just in Time (JIT) Manufacturing and Inventory Control System*, ACCOUNTING FOR MANAGEMENT, http://www.accountingformanagement.com/just_in_time.htm (last visited Nov. 15, 2011).

[115] Renting patents will do little to discourage lawsuits by non-practicing entities, however.

[116] These examples are discussed in Ewing, *supra* note 68.

[117] Hewlett-Packard Co. v. Acer, Inc., No. 02-07-CV-103-CE, 2008 U.S. Dist. LEXIS 25952, at *3 (E.D. Tex. Mar. 31, 2008).

[118] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5977626", "6188132", "6788257", "6280021") (showing execution dates to Acer in September and July of 2007); *What is ITRI?*, INDUS. TECH. RESEARCH INST., http://www.itri.org.tw/eng/about/article.asp?RootNodeId=010&NodeId=0101 (last visited Dec. 5, 2011).

[119] Erica Ogg, *Acer Sues HP Again Over Patents*, CNET NEWS BLOG (Oct. 31, 2007, 3:40 PM PDT), http://news.cnet.com/8301-10784_3-9808687-7.html.

¶106 Similarly, Samsung defended itself in a patent infringement case by buying patents and then using them in a countersuit against Matsushita.[121] Over the course of the litigation, Samsung also filed counterclaims related to patents that it had previously obtained from a German government agency.[122]

¶107 It would be difficult to overestimate the value of having an effective response to the problem of modern patent litigation. It is tremendously challenging, if not impossible, to determine whether an asserted patent is valid and whether it applies to the product it is being asserted against. Patent litigation is lengthy and expensive, and it is tough to predict the outcome of any individual case. When a company is sued for infringement, the rational choice may be to pay the person bringing the claim, even if the claim is quite weak. If a settlement cannot be reached, a company must slog through years of exhausting litigation that can drain the company's finances, distract the company's executives, and generate negative publicity. The ability to acquire the perfect weapon, tailored to a particular patent litigation, just at the time it is needed would be of great value to modern companies.

¶108 Mass aggregators may offer a secondary function that can also help with litigation woes. Just-in-Time patenting will not necessarily help in fending off trolls. Trolls, by definition, are non-practicing entities. Thus, trolls do not have any products that might be vulnerable to threats from other patents. There may be complicated strategies, in which patents can be used through third parties to interfere with a particular troll's activities, but in general, Just-in-Time patenting is not a troll solution.

¶109 Mass aggregators, however, can impede activities by non-practicing entities in other ways. Large patent pools with vast capital resources can deal with trolls by sopping up their potential patent inventory when it appears on the market. In other words, an aggregator on behalf of its subscriber operating companies may compete with trolls by buying up patents that could possibly used against any of them if they appear in an open market. The companies still incur costs to respond to the troll problem, but it may be cheaper to buy patents then to buy off trolls, and it is certainly less distracting and aggravating for company executives. In addition, the anti-troll patent acquisition activity is outsourced to a third party—the mass aggregator—who may gain experience as a repeat player in the market for patent monetization, allowing the company to focus on its core activity of production.[123]

¶110 Similarly, the aggregator may approach a non-practicing entity that has already sued or threatened to sue members of the aggregator's anti-troll club and simply buy the patent and or secure licenses. This process may provide settlement for the operating company members at lower cost than they would spend litigating (and settling) individual lawsuits, although one could question whether it constitutes horizontal collusion by competitors.

¶111 This process may also be good for the aggregator's business. When the non-practicing entity has also sued companies who are not members of the aggregator, the aggregator may also purchase additional licenses or make other arrangements with the non-practicing entity that make "joining the club" attractive for the non-member operating companies. Of course, this process does not really break the non-practicing entity's business model, and in some sense provides it with greater certainty of an ultimate deal, albeit possibly at a lower profit.[124]

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[120] Press Release, Hewlett Packard, HP and Acer Settle Patent Litigation (June 8, 2008), *available at* http://www.hp.com/hpinfo/newsroom/press/2008/080608a.html.

[121] Brief of Plaintiff at 5, Matushita v. Samsung, No. 02-336, 2005 U.S. Dist. Ct. Motions LEXIS 32374 (D.N.J. 2005); Eric Hellweg, *SonicBlue's Bankruptcy: Big Media Wins*, CNN MONEY (Mar. 27, 2003), http://money.cnn.com/2003/03/27/technology/techinvestor/hellweg/index.htm; USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5481693") (showing transfer of the '693 patent to Samsung from SonicBlue on Nov. 14, 2002).

[122] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5181209") (purchased from the German aerospace research center now known as Deutsches Zentrum für Luft-Und Raumfahrt E.V.).

[123] One philosophical conundrum with this strategy, however, is whether the mass aggregator expressly abandons the purchased patents, thus eliminating them forever as a threat to anyone, or whether the mass aggregator subsequently solves the "free rider" problem by "trolling" against non-aggregator subscribers using the purchased patents. In the first approach, the aggregator performs a community service at the expense of its subscribers and financial backers; in the second approach, the aggregator essentially becomes a troll itself.

[124] This may encourage the non-practicing entity to enter a "volume business" on a lower revenue per unit transacted basis,

¶112 This particular anti-troll approach also has a pleasant side effect. As the aggregator amasses patents, those patents can be used as a hammer to bash competitors who haven't joined the club, and the income can be used to defray the costs of acquisition.

¶113 Intellectual Ventures has taken a particularly forward-looking approach to the activity. By signing up universities, research labs, and inventors, Intellectual Ventures has optioned future patentable ideas prior to their conception. In other words, they are not just swatting the pesky mosquitos; they are actually draining the swamp. Of course, this analogy assumes that "the swamp," also known as a "biologically diverse wetland," is a bad thing that all parties agree should be drained, filled in, paved over, and forgotten.

¶114 The value of this litigation defense and anti-troll activity may explain why some of the largest market incumbent technology companies are listed as early investors and participants in mass aggregators. These companies may find the possibility of a defense fund tantalizingly appealing, even if they would be more reluctant to join troll-like activity. In addition, the pressure of joining a mass aggregator becomes greater across time. As your fellow technology companies sign up, it becomes harder to resist, even if it falls outside of corporate policies or the goals to which one might otherwise aspire. Business is a form of communication, and market actors tend to replicate the behavior of others.

¶115 If the model works well enough, it could become more than Just-In-Time patenting. Over time, a company may not have to do much more than rattle the defensive sword against a competitor. The largest market incumbents presumably have the greatest potential access to the Just-in-Time patents. When one has an insurmountable weapon, there is no need to use the weapon.[125] In this context, as companies demonstrate that they have access to any sort of patent for use against any sort of company via access to a pool, the amount of producer v. producer patent litigation could potentially be reduced as prospective litigants contemplate the potential impact of a new, unknown weapon that the well-heeled market incumbent could assert against them by virtue of its platinum club card. Thus, participating in a patent mass aggregator becomes a form of insurance. One may never need it, but it is there if necessary. Like any doomsday device, however, it needs to be advertised and concretized with strategic demonstrations of its potential power.[126]

¶116 Finally, in thinking about the troll activity that mass aggregators could potentially counter, one must be careful that the cure is not worse than the disease. As patent scholars Meurer and Bessen point out in their book, troll activity accounts for only a small part of the costs of the patent system.[127] If the potential harms from this anti-troll approach are too great, the solution could be worse than the problem. We will turn to considering the potential harms from mass aggregation activity.

III. POTENTIAL HARMS

¶117 If the patent system worked efficiently, one might be able to anticipate and measure the types of positive effects described above. The patent world, however, is far from perfect. In fact the same market imperfections that fuel the trolling phenomenon are likely to prevent the market for patent monetization from offering the positive effects contemplated and to create harm instead. The aspects of the patent system that ensure high transaction costs, encourage nuisance litigation, and create

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e.g., mass production.

[125] But then again, maybe not. In the period immediately following the Second World War, the US government assumed that it could fight all future wars using nuclear weapons and consequently wouldn't need nearly as many soldiers, sailors, and marines. The armed services competed fiercely over control of nuclear weapons because the government was considering eliminating at least one of them. But when the Korean War came along, the strategists soon realized that some wars would be fought on scales that would not justify the use of nuclear weapons, and consequently, conventional weapons became much more attractive again and each of the separate services thrived.

[126] *See, e.g.*, DR. STRANGELOVE, OR: HOW I LEARNED TO STOP WORRYING AND LOVE THE BOMB (Columbia Pictures 1964). The problem with the Soviet "doomsday device" was that they had not told the Americans they had developed it.

[127] JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 160 (2008).

incentives for inefficient behaviors will carry over to the new patent system with the addition of aggregators.

¶118 The overarching problem is that it is difficult, if not impossible, to get a quick and inexpensive answer in a patent dispute. Given the difficulty of translating the abstract language of a patent from one context to another, the lack of predictability in patent decisions, and other uncertainties in patent law, it is difficult to tell whether a particular patent claim will be upheld and whether a particular product will be found to infringe a given claim.[128] No matter what the trial court decides, litigants have fairly good chances that the Court of Appeals for the Federal Circuit may find differently. The cost of finding an answer to the question is quite high in terms of both dollars and time. Patent litigation is lengthy and expensive, so the cost of testing whether a particular threat of infringement has merit will be high. The cost is so high, in fact, that testing a threat can easily exceed the cost of settlement, and parties may rationally choose to pay a complainant even when the claims seem quite weak.

¶119 In calculating the potential costs of litigating an infringement claim, a company must also include the risk that damages will be assessed. Current doctrines on measuring damages from patent infringement can result in awards that have a devastating impact on a company. Suppose a company makes a complicated, multi-component product. If one component of the company's product is found to infringe someone else's patent, the damages may far exceed the value of that component to the overall product.[129] The greatest risk from an infringement suit, however, is that the company's product will be simply shut down. Although the Supreme Court recently ruled that patent holders are not automatically entitled to an injunction after proving that someone is infringing the patent, injunctions are still frequently granted.[130] Having to shut down the entire product could be devastating, even if the product could eventually be reconfigured to avoid infringing. In short, the problem is not just the high costs of getting an answer but also the risks associated with getting an adverse answer. These are not bets that the typical commercial actor wants to accept, and who may therefore want to make the problem go away by settlement.

¶120 Such tremendously high transaction costs have the effect of incentivizing suboptimal behavior from all actors. For example, patent holders have an incentive to assert marginal patents in the hopes of getting the company to settle for an amount less than it would cost the company to litigate. With insufficient validity and valuation information, some patent holders asserting valid patents that are being infringed may seek damages far in excess of the patent's value. Conversely, operating companies have an incentive to utilize the power that comes from their ability to employ better legal counsel in these complex interactions, even when the operating companies suspect that they are infringing a valid patent.

¶121 Even perfectly honest and diligent operating companies are caught in the maelstrom. With the millions of active patents on record, each of which may have dozens or even hundreds of claims, combined with the difficulty of knowing how they will be interpreted, it is impossible to know with certainty that one's product will not infringe someone else's patent claims. In this environment, lawyers may encourage company executives not to search, to avoid the greater damages available from willful infringement. In a similar vein, patent counsel will instruct inventors not to search extensively for prior art, because a patent applicant need only disclose prior art that the applicant knows about.

¶122 In short, the patent system is plagued by a vast supply of patents, many of which may be quite weak. The present system for granting patents does not overtly consider the overall patent supply in

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[128] For a discussion of the uncertainty of language and other uncertainties inherent in patent law, see FELDMAN, *supra* note 102.

[129] Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 WM. & MARY L. REV. 655, 664 (2009); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2003 (2007); FELDMAN, *supra* note 102.

[130] eBay v. MercExchange, LLC, 547 U.S. 388 (2006); *see also* Lily Lim & Sarah E. Craven, *Injunctions Enjoined; Remedies Restructured*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 787, 798 (2009) (stating that injunctions are still granted in 72% of cases after *eBay v. MercExchange*).

a given technical area in granting new patents.[131] In addition, regardless of whether the patent is weak or strong, the range of each patent cannot be determined without a large investment of time and effort, and any pre-litigation predictions about the scope of a patent may prove incredibly wrong.

¶123 Mass aggregation will not alter the high transaction costs of obtaining an answer within the system, the vast supply of patents, or the incentive structures of the parties involved. These characteristics will persist regardless of whether the patent holder is an original inventor, a traditional troll, or a mass aggregator.

¶124 One can think of mass aggregation as the patent system on speed.[132] More bargaining and swordplay will take place among a company producing products, its competitors, and non-practicing patent holders, but some of the parties involved in this gamesmanship will be larger and have more sophisticated weaponry. Trolling activity will occur, but it will be carried out more often and by larger trolling entities. Without changing the basic incentive structures of the patent system, mass aggregation will be no better than the current patent system at rewarding the deserving inventor and greasing the wheels of innovation while protecting diligent producing companies. One could even argue that the mass aggregation activities will act as a multiplier for the worst aspects of the present system—deserving but low capitalized patentees will be further marginalized while product companies are forced to license greater numbers of marginal patents.

¶125 If mass aggregation were merely no better than the current system, one might not be too concerned over about its appearance. Unfortunately however, while mass aggregators are likely to create harms to innovation as a whole.

A. A Tax on Production

¶126 In our vastly imperfect patent system in which transaction costs are substantial, information is difficult to obtain and is asymmetrically distributed, and the cost of testing the validity of a patent may be quite high, mass aggregators will be able to extract value through patents regardless of the strength of the patents they are asserting. The value ultimately would have to come through payments from manufacturers of current products, and the process would serve as a tax on current products.

¶127 Such a tax on current production may serve to decrease future production and/or operate as a cost passed on to consumers. When costs of production increase, potential manufacturers must factor that cost into the decision of whether to produce. As the price point for rational production rises, fewer products will cross the threshold at which it is worth introducing the product.

¶128 From another perspective, the tax on production also could end up reducing R&D. Although tracing spending decisions in a single firm is complex, at a very simple level, a company that must spend more on current production costs will have less to spend on research and development of new products. Many companies have historically funded their R&D from the same source that pays the company's licenses.[133]

¶129 From either perspective, a tax on production is likely to have the effect of reducing genuine product innovation. Thus, the products and services that are being created with the introduction of the market for patent monetization may not be ones that society wishes to encourage.

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[131] The technical distance between issued patent claims in crowded fields may be lessened, leading to patents with narrower claims, but the Patent Office has yet to declare that it is even "difficult" to obtain a new patent in any given area, and no one has demonstrated that new patents in crowded areas are impossible to obtain. The patent prosecution system essentially functions as a bargaining process between the Patent Office and its "customers," the patent applicants.

[132] More than six years ago, at the very beginning of its massive patent acquisitions, Intellectual Ventures was described as "a troll on steroids." Lisa Lerer, *Going Once*, LAW.COM CORPORATE COUNSEL (Nov. 1, 2005), http://www.law.com/jsp/cc/PubArticleFriendlyCC.jsp?id=900005439584.

[133] This has led to what is sometimes known as "the two-dollar swing." For every royalty dollar exchanged between a company and a competitor, a two-dollar differential is created between them if inbound and outbound licensing fees are tied to R&D funding.

B. Opportunities for Anticompetitive Conduct

¶130 Certain characteristics of the market for patent monetization make it an excellent vehicle for anticompetitive conduct. The market for patent monetization itself may never be truly competitive. For example, the market for patent monetization may have first mover advantages. As many scholars have noted, larger groupings of patents may be more useful than smaller groupings or individual patents.[134] With mass aggregation, early players in the field may become large enough to ensure success before others enter the market, not because the early players are better at evaluating patents and choosing good ones, but because of their sheer size combined with tactics used to intimidate. This phenomenon could create entry barriers such that those who come later will never be able to compete on even terms.[135]

¶131 Antitrust law established some time ago that being big is not bad, in and of itself. Certain tactics, however, are troubling when taken by those who have the power to hurt consumer welfare in a particular market by adversely affecting prices, quantities, qualities, or varieties of goods and services that are currently or potentially available.[136] In other words, big is not bad; it is what you do with your girth that matters. If entry barriers do exist, early entrants into the mass aggregation game may have the girth and the tactics that would raise antitrust concerns.

¶132 We note, as an initial point, that the extensive ties among the various mass aggregators should raise questions and concerns about horizontal collusion. The complexity and opaque nature of the corporate structures make it extremely difficult to track the interactions and connect the dots.

¶133 For example, consider the scenario suggested above in which the mass aggregator negotiates a license from a troublesome troll on behalf of its members. Under certain circumstances, one might consider this to be an example of horizontal collusion in which competitor producing companies join together to force a lower price from a supplier.

¶134 In the largely unregulated environment of this early market, there do seem to be opportunities for horizontal interactions that could raise questions about anticompetitive behavior. For example, one prospective investor in mass aggregators reported interesting interactions between two aggregators, Acacia and RPX.[137] According to the investor, the two entities have a monthly call in which Acacia describes the producers they are in the process of targeting and the patents they will assert against the producers. Acacia then names a price for the patents in question, and RPX purchases the patents if it wishes.

¶135 Most likely, the interactions constitute nothing more than innocent, periodic sales discussions. Under other circumstances, however, the interactions could constitute horizontal collusion. This emerging market environment is reminiscent of the Wild West, in which the early settlers created and enforced their own norms, and there was little scrutiny or law enforcement from sovereign entities.

C. Raising Rivals' Costs[138]

¶136 The current market for patent monetization offers other opportunities for anticompetitive behavior. For example, wouldn't it be nice if you could create a tax on production for your competitor while keeping your own costs low? The market for patent monetization may be a good vehicle for that. Characteristics such as entry barriers to keep new entrants out, the inability to quickly resolve issues of patent validity and application, as well as the extensive bargaining inherent in

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[134] *See* Peter N. Detkin, *Leveling the Patent Playing Field*, 6 J. MARSHALL REV. INTELL. PROP. L. 636, 641 (2007).

[135] Patents are unique goods somewhat like fine art. It is for similar reasons that the Getty Museum announced early on that it would stick to acquisition in certain key areas and would provide grants and subsidies to other museums. Otherwise, the best art would always be acquired by the Getty given the size of its endowment.

[136] *See* U.S. DEP'T OF JUSTICE AND FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 2 (1995), *available at* http://www.justice.gov/atr/public/guidelines/0558.htm.

[137] See email from investor on file with authors.

[138] Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209 (1986).

the patent system provide ample opportunities for using the market for patent monetization to raise rivals' costs. A tax on production is even more troubling when administered through a market concentrated in the hands of a few actors.

¶137 Consider the recent lament of Google's chief legal officer, David Drummond. Google purchased a smartphone operating system called Android to compete with Apple's iPhone and smartphone devices that use Microsoft's Windows system. As sales of Android increased, Apple and Microsoft joined a coalition of companies to purchase a set of patents from recently acquired Novell. Apple and Microsoft then teamed up in a second coalition to purchase a large set of telecommunications patents at auction from recently bankrupt Nortel Networks. Drummond complained that the group entered the Nortel auction, sending the bidding far above expected value, in order to prevent Google from purchasing the patents and to assert those patents against makers of Google's Android phone in an effort to raise the cost of the phone.[139] As Drummond commented so colorfully, "Microsoft and Apple have always been at each other's throats, so when they get in bed together you have to start wondering what's going on."[140]

¶138 The Justice Department, expressing concerns over the competitive effects of the group's purchase of the Novell patents, insisted on certain requirements, including that 1) Microsoft sell back the Novell patents and maintain only a license; and 2) all of the patents acquired must be available for open source licensing.[141] These requirements are cold comfort to Google, which is still subject to efforts by members of the group to assert the Nortel patents acquired in various ways against makers of Android phones.[142] Apparently as a response to the Nortel auction, Google purchased Motorola Mobility, a mobile telecom arm of Motorola, for $12.5 billion in August 2011.[143] The acquisition gives Google access to some 17,000 patents owned by Motorola Mobility.[144]

¶139 Concerns about the possibility of raising rivals' costs are particularly troubling in light of the privateering behavior that is prominent for most of the mass aggregators. Tom Ewing has described extensively how privateering through third parties can be used to damage one's competitors or advance one's competitive position through a variety of techniques. These include privateering activities that bring patent lawsuits aimed at scaring off a competitor's customers and suppliers; patent suits timed to lower the stock price before an initial public offering or a merger so that the potential investor buys the stock for less, and privateering activity in a particular nascent field, which is designed to distract young management and drive risk capital towards particular companies.[145] If particular mass aggregators accumulate sufficient power, then those who are "in the gang" have a tremendously powerful club that could be used for anticompetitive activity.

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[139] *See* David Drummond, *When Patents Attack Android*, THE OFFICIAL GOOGLE BLOG (Aug. 4, 2011, 12:37 PM), http://googleblog.blogspot.com/2011/08/when-patents-attack-android.html (describing Microsoft's effort in demanding $15 in licensing fees per phone from various Android phone makers) (citing Miyoung Kim, *Microsoft Wants Samsung to Pay Smartphone License: Report*, THOMSON REUTERS (July 6, 2011, 6:24 AM), http://www.reuters.com/article/2011/07/06/us-samsung-microsoft-idUSTRE7651DB20110706).

[140] *Id.*

[141] U.S. Dep't. of Justice, *CPTN Holdings LLC and Novell Inc. Change Deal in Order to Address Department of Justice's Open Source Concerns*, JUSTICE NEWS (Apr. 20, 2011), http://www.justice.gov/opa/pr/2011/April/11-at-491.html.

[142] *See, e.g.*, Kim, *supra* note 139; Josh Halliday & Charles Arthur, *Microsoft Sues Motorola Over Android*, GUARDIAN TECH. BLOG (Oct. 5, 2010, 7:21 AM), http://www.guardian.co.uk/technology/2010/oct/04/microsoft-motorola-android-patent-lawsuit. Of major concern is the fact that a large number of the Nortel patents are related to emerging industry standards for fourth-generation (4G) wireless technology. *See, e.g.*, Jamie Sturgeon, *Five Years that Changed Everything*, FIN. POST (Aug. 20, 2011, 8:59 AM), http://business.financialpost.com/2011/08/20/five-years-that-changed-everything/. Not surprisingly, Google appears to be purchasing patents en masse themselves, recently acquiring a portfolio of more than 1000 patents from International Business Machines. *See* Amir Efrati, *Google Buys IBM Patents,* WALL ST. J. (July 29, 2011, 12:41 PM), http://online.wsj.com/article/SB10001424053111904800304576475663046346104.html.

[143] *See* Press Release, Google to Acquire Motorola Mobility (Aug. 15, 2011), *available at* http://investor.google.com/releases/2011/0815.html.

[144] Victoria Slind-Flor, *Google, Nokia, Easyjet, 'Snakeman,' Yahoo!, UMG: Intellectual Property*, BLOOMBERG (Oct. 4, 2011, 4:01 AM), http://www.bloomberg.com/news/2011-10-04/google-nokia-easyjet-yahoo-umg-intellectual-property.html.

[145] *See* Ewing, *supra* note 55.

¶140 Society should be particularly concerned about privateering activity aimed at next-generation technologies that threaten to unseat an entrenched monopolist.[146] If participants in mass aggregators are well-entrenched monopolists, for example, patent lawsuits could conceivably be used to burden next-generation technology or soften them up for easier purchase. Imagine if Microsoft had purchased Sergey Brin and Larry Page's little search engine long before Google became a competitive threat.

¶141 The purchase of the Novell and Nortel patents has focused attention on activities in the smartphone sector. In general, however, purchasing patents to assert against a competitor, either directly or through third-party proxies, in an effort to raise the competitor's costs is a type of behavior that can be difficult to detect and even harder to deter. A targeted competitor could try to assert private antitrust claims or claims of patent misuse.[147] Current doctrinal trends in both areas, however, make these claims difficult to pursue. The Federal Circuit is hostile to claims of patent misuse and rarely finds such claims to be valid.[148] Antitrust claims are even more difficult to pursue.[149] In general, one has a right to petition the government, even if the successful petition would have an anticompetitive impact, and the definition of government includes a petition to a court. [150] There is an exception in which one can base an antitrust claim on court filings that constitute sham litigation. This requires a finding that from both an objective and subjective perspective, the claim filed was a sham.[151] Given the uncertainties in patent interpretation, however, it is extremely difficult to establish that assertion of a patent against a product is a sham, particularly given the high burden of proof that some courts have required in sham litigation cases. In sum, it is tremendously difficult to succeed in a private antitrust claim.[152]

¶142 Competition authorities, such as the Federal Trade Commission, the Department of Justice, and state antitrust agencies might choose to file antitrust claims. These tend to be slow moving processes, however, and these agencies would face the same hurdles as private antitrust claimants. By the time the competition authorities detect the behavior, and the courts understand it enough to make room in the doctrines, early movers may have reaped their rewards and moved on to other tactics. In short, the type of tactics available to mass aggregators, given characteristics of patents and the structure of the market for patent monetization may raise troubling concerns of anticompetitive effects.

D. Other Troubling Market Behavior

¶143 Although details of mass aggregator behaviors are difficult to come by or to confirm, one fascinating episode involving RPX gives a rare inside view of the types of tactics that mass aggregators have used. In January of 2011, the owner of a Russian technology company contacted the FBI to suggest that criminal charges be filed against RPX for allegedly engaging in extortion, mail

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[146] *See* Robin C. Feldman, *Defensive Leveraging in Antitrust*, 87 GEORGETOWN L.J. 2079 (1999).

[147] Particular to smartphones, patents that are essential to communication standards have been subject to high antitrust scrutiny. Members of standards bodies are required to license their patents on Fair Reasonable and Non-Discriminatory (FRAND) terms. However, due to the massive number of patents held by different members and the effect of cross-licensing on license rates, it is nearly impossible to find similarly-situated licensees in order to determine whether offered license rates are anti-competitive. *Qualcomm v. Broadcom*, 501 F.3d 297 (3rd Cir. 2007), is a singular case finding an antitrust violation because the licensor had blatantly offered reduced license rates for standard-essential patents to customers.

[148] *See, e.g.*, Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 HASTINGS L.J. 399 (2003) (arguing the fundamental limitation of antitrust analysis to evaluate abusive licensing practices). The Federal Circuit most recently re-affirmed the strict limits of the patent misuse doctrine in *Princo Corp. v. ITC*. Princo Corp. v. ITC, 616 F.3d 1318, 1329 (Fed. Cir. 2010) ("Recognizing the narrow scope of the doctrine, we have emphasized that the defense of patent misuse is not available to a presumptive infringer simply because a patentee engages in some kind of wrongful commercial conduct, even conduct that may have anticompetitive effects.").

[149] FELDMAN, *supra* note 102, ch. 5.

[150] The Noerr-Pennington doctrine is rooted in the constitutional right to political speech and allows citizens to petition the government without feat of antitrust liability. United Mine Workers v. Pennington, 381 U.S. 657 (1965); E. R.R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961).

[151] Prof'l Real Estate Investors v. Columbia Pictures Indus., 508 U.S. 49, 60-61 (1993) (articulating the present standard for sham litigation).

[152] FELDMAN, *supra* note 102, ch. 5.

or wire fraud, and racketeering. The letter, signed by the CEO and Chief Intellectual Property Counsel of Kaspersky Labs was reproduced on the GameTime IP Blog on May 31, 2011.

¶144 The letter described the following allegations. According to Mr. Kaspersky, a non-practicing entity named IPAT sued his company and 23 other companies for patent infringement. Eventually, 22 of the companies signed confidential settlement agreements and were released from the suit, and eleven of those became members of RPX.

¶145 According to the letter, Kaspersky's company was approached by RPX as well in an email explaining that RPX had acquired the patents in the lawsuit and could release Kaspersky from the suit in exchange for a 3-year membership in RPX at a cost of $160,000 a year. With such a membership, Kaspersky Labs would be released from the suit and would have the benefit of not being sued in connection with any of the other RPX patents.

¶146 Mr. Kaspersky says that in the three months following the initial contact, he received additional letters and emails from RPX, noting that other defendants in the suit had joined RPX and been released, that the deadline for joining would soon expire, and that if Kaspersky were to ever sue other members of RPX, RPX would make patents from its pool available to that member to defend or counterclaim against Kapersky. Finally, Mr. Kaspersky received an email from RPX explaining that even though RPX had pledged not to use its patents offensively, RPX could sell its patents to third parties to be used against non-RPX members. (In such a scenario, of course, the few holdout companies would become the only targets.) The message also suggested that companies who did not contribute financially to the settlement would harm their relationship with industry peers.

¶147 As far as we have been able to determine, the FBI has taken no action in response to the Kaspersky letter. Nevertheless, it is not hard to understand how a foreign entity might interpret this type of patent interaction as extortion. The episode also highlights the need for better definition of what is legal and what is not in this arena. For example, when would behavior analogous to what is described in the Kaspersky letter cross the line into anticompetitive behavior? Could the facts ever be such that it would constitute an attempt to monopolize a market by organizing a cartel? In asking that question, what market should we be analyzing, the market for the product covered by the patent, the market for patents in this product arena, or the market for monetization of patents as a whole?

¶148 In addition, when should the legal rules require disclosure of a relationship between parties, either for conflict of interest rules, corporate disclosures, antitrust, or agency purposes? What would constitute a sufficient relationship between the parties to require disclosure? For example, if a mass aggregator's members include all but one player in a particular arena, and the mass aggregator transfers the patent to a third party giving the third party the right to sue only those who are not members of the mass aggregator, is the third party acting as an agent of the aggregator when it sues the only holdout? These are the types of questions that current law is ill equipped to handle.

E. Odd Characteristics of the Inputs Supplying the Market

¶149 In addition to harm from a tax on current production and opportunities for anticompetitive conduct, the new market for patent monetization has other characteristics that raise the specter of harm to innovation and innovation industries. Consider first the odd characteristics of the inputs that are supplying the market for patent monetization.

¶150 One can think of mass aggregators as any other type of market producer. Aggregators have a product to sell, and they must purchase inputs to create the product. In this case, the sole raw materials are patents and patent applications.

¶151 Purchasing patents as raw inputs for something other than a manufactured product differs from the traditional assumptions about the role of patents in the economy.[153] The primary role of patents as it has developed in the modern economy is to allow an inventor or the inventor's licensee to have

[153] Of course, some historical inventors such as the Wright Brothers were primarily interested in licensing their patents rather than making products, but such inventors were outliers.

market space for bringing a new product to market from the invention by excluding others from making, using, or selling the invention.[154] As described above, however, aggregators make almost no effort themselves to cross the divide from patent to product.

¶152 Patents are also created or acquired for defensive purposes. Once a company secures patent rights to an invention, that company frequently tries to patent possible variants of the invention, to keep competitors from making a close substitute for the product.[155] Patents also flow out of R&D activity as academic institutions or commercial R&D departments search for innovations, patent them, and then put them aside, hoping to find a licensee who will develop the product or to turn to them when the company is ready to pursue new products.

¶153 Once inventions have been created and patented, they traditionally change hands for a limited set of reasons, most of them related to product development. Companies producing a product may acquire patents or license them to create what is known as "freedom to operate", that is the ability to produce a product without concerns of infringement suits.[156] Along these lines, patents may also be acquired to create a robust portfolio so that competitors who might be tempted to file an infringement claim will be deterred or rebuffed by the number of patents that the company can threaten in return. Companies also find themselves with a varied patent portfolio through mergers and acquisitions, which may bring patents that range far from the company's core products.

¶154 Thus, the patents that are now being acquired as inputs for mass aggregators traditionally have been created and exchanged for other reasons, if at all.[157] Whether patented offensively or defensively, inventions have typically been created and acquired either in hopes of creating a commercial product or for reasons closely related to a commercial product. These inputs, very few of which would ever generate revenue, are now being monetized and traded independent of underlying products.

¶155 In the words of the patent system, we are finding a "new use" for these old products as inputs for the mass aggregator product. The new use, however, is not necessarily a good use, from society's perspective, although it might potentially generate huge returns for certain investors and early adopters.

F. Odd Characteristics of the Aggregator Business

¶156 Although there are many ways to conceptualize the product that mass aggregators offer, consider the following perspective: What is the mechanism by which mass aggregators expect to generate income to share with their investors? Some investors receive the benefit of being able to use the portfolio as a shield from infringement litigation, but not all investors need this particular benefit. Investors such as the William & Flora Hewlett Charitable Foundation and the World Bank, for example, are unlikely to worry much about patent infringement lawsuits. All investors, however, are promised a share of the profits from the mass aggregator's core business. That business involves gaining a return by monetizing patents.

¶157 In order to gain a direct return from monetizing patents, the return must be collected from revenues on existing manufactured products. Someone, someplace has to make something that is at least sort of like the patented invention. There is simply no other way to make a penny from a patent.[158] In other words, the aggregator's level of return depends on how successful it is at

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[154] We note that we are describing the role of patents in the modern economy, rather than the description necessarily promulgated in judicial decisions.

[155] This is called "defensive patenting", in which patent continuations (procedural revisions of patent applications) are used to create new claims for different variants. For a discussion of use of defensive patents as bargaining chips in cross-licensing, see William E. Kovacic, *Intellectual Property Policy and Competition Policy*, 66 N.Y.U. ANN. SURV. AM. L. 421 (2011).

[156] Analysis of freedom to operate is complicated by the sheer volume of issued patents as well as the possibility of overlapping rights, termed by Carl Shapiro as a "patent thicket." *See* Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standard Setting*, *in* 1 INNOCATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe, Josh Lerner, & Scott Stern eds., 2001).

[157] We note that small trolls prototyped the process of altering the uses of patents many years ago.

[158] A technology license and/or know how would be a different matter.

extracting value from existing products or products close to the production pipeline. In a world of perfect information (especially regarding valuation), low transaction costs, and a smoothly functioning patent system, one might have fewer concerns about any negative effects on the innovation system. Aggregators would simply play the role of ensuring that the proper value is shared with the proper inventor, an activity that might well stimulate future innovation.[159]

¶158 In the real world of patents, however, the picture is quite different. As described above, the system is not effectively structured to filter out or even retard weak or misapplied patents, and the costs and risks of litigating an infringement suit may far exceed the costs of paying off a claimant. Thus, the result of having a market for patent monetization is not simply that the forgotten inventor triumphs; patents are monetized regardless of whether they are strong or weak.[160]

¶159 To put it bluntly, the successful aggregator is likely the one that frightens the greatest number of companies in the most terrifying way. In fact, a potentially successful approach might be to use a large number of patents of questionable value acquired cheaply and mixed in with a handful of strong ones.[161] When the aggregator knocks on the door, manufacturers may capitulate simply because the aggregator is the biggest, baddest guy on the block.[162]

¶160 This may not be the type of market that society wishes to encourage. At the very least, society might want to curtail certain behaviors, if not forbid them altogether. How can one do this, however, without causing even greater harms to the innovation system? How does one water the garden so that only the beneficial plants grow while the weeds whither?

G. Economic Stability

¶161 Although the possibilities are more remote, one should also consider the potential negative effects for the broader economy. Patents are linked to innovation in general, which is likely to affect all sectors. Thus, the effects of the market for patent monetization could be felt broadly across the economy.

¶162 One reference point could be the dot.com crash of the early 2000s, which had a negative impact on the economy as a whole.[163] The run-up to the dot.com crash featured large amounts of capital flowing into early stage and speculative technology companies, mostly related to the Internet. Many of the companies had yet to develop a product or to turn a profit; this was the era of "vaporware," in which companies could receive funding, go public, and sell products on little more than the promise of what they might be able to develop. Everyone agreed that some companies would surely strike it rich in the Internet game, and investors were willing to bid up prices on shares of entities with little proven value in the hopes that some of them would prove to be gold. The "irrational exuberance" that drove investment to a frenzied level eventually burst, creating a recession in the technology industry with ripple effects across the broader economy.[164]

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[159] Although even in a perfect system, one would presumably want to balance the royalties that are going to old technology (up to 26 years old) as opposed to rewards/royalties going to newer technologies. Most new patents expire 20 years, more or less, after their filing, but damages can be collected up to six years after infringement has occurred.

[160] Indeed, one of the benefits of the aggregator model is that it achieves the scale of the licensing operations of the large operating companies, such as IBM, where at least a few patents from a portfolio of 30,000 active patents is almost certain to be at least arguably infringed by any licensing target—and there are few reasons why the prospective licensee should review the 30,000 active patents and develop strategies for arguing invalidity and/or non-infringement—which is precisely the game played by operating companies when approached by a small portfolio comprising just a few patents.

[161] This approach, of course, arguably mimics the approach target for a generation by the large operating companies in conducting their licensing operations. This is precisely the reason behind legendary licensing procedures such as the ruler metric in which each side literally measures its stack of patents against the other side's stack.

[162] A process frequently described at IP symposiums as "a value proposition."

[163] Roger Lowenstein thoroughly examines the fervor that led to the crash in ROGER LOWENSTEIN, ORIGINS OF THE CRASH: THE GREAT BUBBLE AND IT'S UNDOING, (Penguin 2004). Discussing the cavalier attitude of analysis and use of the rising market as a benchmark for investment, Lowenstein offers the following quote from Morgan Stanley's Mary Meeker: "We have only one response to the word 'valuation' these days: 'Bull Market.'" *Id.* at 111.

[164] This term, attributed to Alan Greenspan, is now used to describe a heightened state of speculative fervor. *See* Alan Greenspan, Chairman, Fed. Reserve Bd., Remarks at the Annual Dinner and Francis Boyer Lecture of the American Enterprise Institute for Public Policy Research: The Challenge of Central Banking in a Democratic Society (Dec. 5, 1996) (transcript available

¶163 Not all of the companies that failed during the technology crash were weaklings. Many of these companies had good business models, and the myriad of ways in which the Internet could be utilized offered legitimate opportunities for economic exploitation. Others have successfully resurrected the business models for certain companies that failed when the technology bubble burst in subsequent years. Nevertheless, the sector could not absorb all the capital that was being thrown at it indiscriminately, and this, among other problems, led to the crash.

¶164 Although there are certainly differences between the emergence of the market for patent monetization and the run-up to the 2002 technology crash, the similarities are interesting. Most patents traditionally have proven to have little value. The promise of a new use for this intangible and abstract asset is already driving up prices for patents and could conceivably move prices above a rational level. This is particularly true given the venture capital like returns being promised to some investors, returns that are difficult to duplicate elsewhere in the current economy. One might reasonably wonder how much capital can be absorbed into the market for intellectual property rights over a period of time without the investment activity itself causing a local economic deformation.

¶165 Specifically, if prices are driven to an irrationally high level, there could easily be a correction, one whose trajectory might be as steep as the run-up. With a sector crash, less aggressive aggregators could fail along with more aggressive ones, and publicly traded aggregators could fail along with the private ones.

¶166 Normally, if some people are foolish enough to bid prices up to an irrational level, society would be unconcerned when those investments fail. We may care more, however, if the crash is such that it impacts the economy as a whole or impairs our ability to innovate in an economy largely based on innovation. By analogy, the government would allow Border's Books to fail, for example, but would be more concerned with a threat of extensive bank failures.

¶167 Although the chances of a wild patent ride followed by a broad economic crash are remote, the scenario is worth contemplating, nevertheless. To the extent that patents affect all sectors of the economy, one should be mindful of potentially destabilizing events.

H. "To Serve Man"[165]

¶168 Mass aggregator activity may have additional effects that will reduce or delay the benefits of innovation. In particular, the value proposition put to inventors from 400 universities worldwide and presumably a comparable number of independent inventors may have been something along the lines that this process would facilitate the commercial development of their inventions. But there is a stark difference between just patenting an invention and building a technical prototype, developing related know how, and creating a market for the invention. To obtain a patent one does not need to have a working product. Indeed, a genuinely working product could be years away. For example, Chester Carlson's patented experiments with dry chemical photocopying machines from 1936 until he produced the first commercially successful Xerox machine in the early 1950s. His experience provides a cautionary example of the difference between a patent and working product.[166] Funding an aggregator at best funds the Chester Carlsons of the world in 1936 and not the Haloid Xerox Company of the 1950s. Chester Carlson's work on developing a photocopier would have likely stopped once an aggregator had purchased his first few patents.[167] The aggregator would then wait for someone else to take up the ideas later—maybe as much as 26 years later—and then request

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at http://www.federalreserve.gov/boarddocs/speeches/1996/19961205.htm).

[165] DAMON KNIGHT, TO SERVE MAN (1950). The short story was immortalized as a *Twilight Zone* episode in 1962. *To Serve Man (The Twilight Zone)*, WIKIPEDIA, http://en.wikipedia.org/wiki/To_Serve_Man_(The_Twilight_Zone) (last visited Dec. 5, 2011).

[166] Carlson's first patent, US Patent No. 2,221,776, claimed priority from an application filed in 1937. This initial patent was followed up by some 40 other patentable inventions over nearly a 35-year period by Carlson alone—apart from the additional inventive contributions made by Xerox employees working to elaborate Carlson's initial inventive vision.

[167] And even if Carlson's work continued, it would likely lack the practical groundings that come from placing products in the stream of commerce and then observing how to make them faster, cheaper, and better.

royalties. If Chester Carlson turned out to be the truly lone pioneer, then a practical photocopier would never have been produced, at least not on any sort of speedy timeframe.

¶169 The situation of dropped inventions has already happened before. The fax machine, which was all the rage in the '80s and '90s was invented in 1881 but then largely dropped with the exception of improvements for the transmission of photographs by news agencies.[168] Even if a Chester Carlson sells his first patent to an aggregator and continues working, his further work will not be guided by the real world fits and starts associated with making an early prototype and early commercial activity but will much more likely comprise a series of blue sky thought experiments disconnected from the real world. In short, the later patents will almost certainly be of lower value in this scenario because they build only on the shoulders of the first patent and not real experiences.[169]

¶170 It is possible, of course, that buying up all the early Chester Carlson patents will encourage more Chester Carlson's. For this to happen, however, Chester Carlson and many folks like him will have to believe that he got a good deal in selling his patents to the mass aggregator. While he might appreciate the cash that he was paid for the patents, Chester like many inventors, probably wants to see his technology developed. Society's interests would parallel Chester's in this regard. Innovations that are delayed or never produced can create little benefit for society as a whole, although such delays may possibly benefit incumbent producers since they can extend the lifetimes for what would otherwise be obsolete products. The imperfections of the patent system suggest that many of these patents would not have made it to market. Some percentage of those, however, would have stayed in someone's drawer and had little effect on the innovation system at all, other than complicating patent searches. With mass aggregators, the products go into the drawer and the patents are used against current producers who might otherwise have continued on their way unimpeded.

¶171 If the inventors who have sold to a modern mass aggregator had aspirations that the aggregator would facilitate the commercial exploitation of their inventions, they are likely to be sadly mistaken. The largest of the mass aggregators, Intellectual Ventures, has reportedly built only one prototype from all the inventions that it has purchased, and this one prototype was for an improved nuclear reactor that was co-invented by the company's founder Nathan Myhrvold.[170]

¶172 Thus, while aggregators may defend their activities on the grounds that they are promoting innovation and the great rewards that society will receive through new products, the reality may be that many fewer inventions ever become products and many more will be placed on a greatly extended trajectory. For inventors who hope that that mass aggregators will turn their patents into real products and the world will finally appreciate their innovations, the scenario is somewhat reminiscent of an old Twilight zone episode entitled, "To Serve Man." In the episode, friendly aliens arrive and offer humanity a panacea from all the woes that beset it. The aliens even take some lucky humans back to their home planet who are so happy that they never return. Only later does humanity discover that the aliens' book "To Serve Man" is not a gospel of benevolent duty, but a cookbook.

I. Ancillary Implications

¶173 In addition to the economic concerns raised above, the accumulation of power may be troubling in light of the potential for mischief in ancillary avenues. For example, in March of 2011, a company called Mission Abstract Data LLC sued more than 100 radio industry defendants from different parts

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[168] US Patent No. 2,292,387 to Hedy Lamarr and George Antheil, which reported the invention of spread spectrum communication and frequency hopping, had nearly expired as a patent before the US Navy began preliminary work in developing a prototype. Lamarr and Antheil never sought to create a company around their invention, and the inaction resembled that of a patent aggregator. This communications technique underlies all modern communications techniques, however. For full story, see FELDMAN, *supra* note 102.

[169] Carlson's story is not all that different from other disruptive innovators, including but not limited to television pioneer Philo Farnsworth and the Wright Brothers.

[170] TerraPower "was formed from an effort initiated in 2007 by Nathan Myhrvold's company Intellectual Ventures." *Who We Are*, TERRAPOWER, http://www.terrapower.com/WhoWeAre.aspx (last visited Nov. 15, 2011). TerraPower has raised $35 million. Matthew L. Wald, *Developer of Novel Reactor Wins $35 Million Infusion*, N.Y. TIMES (June 14, 2010), http://www.nytimes.com/2010/06/15/business/energy-environment/15nuke.html. Compared to the $5 billion Intellectual Ventures has ready to invest, TerraPower's $35 million is less than 1% of Intellectual Ventures' total funding.

of the country for patent infringement.[171] Intellectual Ventures previously owned the underlying patents, and the pathway from Intellectual Ventures to Mission Abstract Data's present owner Digimedia Holdings LLC is unclear. Similarly, the New York Times Company filed a declaratory judgment action[172] against Webvention, LLC, which obtained its patents by merger with Intellectual Ventures' Ferrara Ethereal LLC in Nov. 2009.[173] The *New York Times* lawsuit ended in less than a month after the Times obtained a covenant not to sue from Webvention on undisclosed terms.[174] Another set of patents formerly owned by an Intellectual Ventures shell company, and now owned by Patent Harbor LLC, have been used in infringement lawsuits brought against 39 entertainment companies, including DreamWorks Animation SKG, Inc.[175] In a draft of our article posted on an academic works-in-progress website in September of 2011, we noted ironically that Myhrvold is a board member of lead defendant DreamWorks Animation SKG, Inc.[176] Although the timing may be coincidental, Dreamworks was dismissed from the lawsuit, by a motion filed jointly by plaintiffs and defendants, shortly after the article was posted.[177] The dismissal serves as a reminder that it is good to have friends in high places.

¶174 Most of these litigations are in early stages and very little information is available. The action of suing a large number of media producers, however, sparked our imagination. We offer the following scenario as a hypothetical and note that there is no indication of such intent on the part of any of the companies.

¶175 Imagine a mass aggregator that is unhappy with the press coverage it is receiving or would like to encourage media support for a particular issue. With this in mind, the mass aggregator sues a large number of players in a particular sector of the media based on patents that the aggregator has recently acquired. When the parties sit down to negotiate, the mass aggregator notes obliquely that, "it is so odd to be on opposite sides of the table when we have so many issues of mutual interest."[178] The conversation could then touch lightly on coverage that would portray the mass aggregator in a better light or political initiatives that the media outlets might be interested in investigating or supporting. Across time as the parties work together on various issues, the settlement costs seem to move into a range that is remarkably comfortable for the media stations.[179]

¶176 Players in the patent world are quite adept at oblique conversations. In many circumstances, a patent holder may wish to demand that a producer pay for a license without taking the risk that the producer will file a declaratory judgment action to have the patent invalidated. Declaratory Judgment actions can only be filed if there is a sufficient threat of litigation.[180] To avoid crossing the threshold,

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[171] The case names 116 defendants, although many may be corporately related to each other. *See* Mission Abstract Data LLC v. Beasley Broadcasting Group, Inc., No. 1:11-CV-00176-LPS, (D. Del. filed Mar. 1, 2011).

[172] N.Y. Times Co. v. Webvention Holdings LLC, No. 1:11-CV-00634-GMS (D. Del. filed July 18, 2011).

[173] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Ferrara Ethereal LLC").

[174] *See* Notice Of Dismissal Without Prejudice Against Webvention, N.Y. Times Co. v. Webvention Holdings LLC, No. 1:11-CV-00634-GMS (D. Del. Aug. 17, 2011).

[175] Patent Harbor, LLC v. DreamWorks Animation SKG, Inc., No. 6:2011-CV-00229-LED (E.D. Tex. filed May 9, 2011) (The complaint was filed on May 9, 2011, and involves two patents formerly owned by Gisel Assets KG, LLC, a company that appears to be an Intellectual Ventures shell company).

[176] Robin Feldman & Thomas Ewing, The Giants Among Us (unpublished manuscript) (Sept. 6, 2011), *available at* http://ssrn.com/abstract=1923449; *see also* DreamWorks Animation SKG, Inc., Current Report (Form 8-K) (Apr. 21, 2011), *available at* http://www.sec.gov/Archives/edgar/data/1297401/000119312511110112/d8k.htm.

[177] *See* Stipulation By Patent Harbor, LLC, Paramount Home, Entertainment Inc., Dreamworks Animation, SKG, Inc., Dreamworks Animation, LLC, and Dreamworks Animation Home, Entertainment, LLC and Stipulation Of Dismissal Of Dreamworks, Animation, SKG, Inc., Dreamworks Animation, LLC, and Dreamworks Animation Home Entertainment , LLC, Patent Harbor, LLC v. DreamWorks Animation SKG, Inc., No. 6:2011-CV-00229-LED (E.D. Tex. Oct. 13, 2011).

[178] This lawsuit ironically came to light about the same time that National Public Radio, not a party to the lawsuit, produced a program called "When Patents Attack" that was highly critical of Intellectual Ventures. *See* Blumberg & Sydell, *supra* note 5.

[179] One could imagine an alternative scenario in which a new line of business as an "influence peddler." An aggregator sues X number of media outlets for patent infringement. As a settlement, the aggregator then seeks some defined measure of editorial control. Having obtained a slice of editorial control over a huge swath of the media, the aggregator then sells this editorial control (or slices of it) to the highest bidder.

[180] *See* MedImmune, Inc. v. Genentech, Inc. 549 U.S. 118, 127 (2007) (requiring "a substantial controversy, between parties having adverse legal interests, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment") (quoting

patent holders may send correspondence referring to areas of mutual interest or issues that might be worth pursuing. This has been described as the Dance of the Sugar Plum Letter,[181] and the media scenario above is simply a variation on the theme.

¶177 The type of behavior suggested in the media hypothetical would be quite difficult to identify or to address. The hypothetical is a reminder that massive power can be troubling, not just for its potential economic effects, but for its potential effects in other dimensions as well.

¶178 We note along these lines that since the draft of our article was posted,[182] Intellectual Ventures purportedly has been wining and dining members of the academy. This approach may be familiar to the company, which appears to have solicited favorable commentary in the past.[183]

IV. A FEW OBSERVATIONS

¶179 The market for monetized patents, which has been created through patent aggregators, should be understood as a massive, rapidly growing, and essentially unregulated market. It has grown up quietly, remaining under the radar as early entrants have garnered power and strength. As with any market, it should be monitored and regulated, with sovereign entities giving some thought to whether aspects of the market should be encouraged, tolerated, deterred, or outright forbidden.

A. Regulatory Oversight

¶180 Competition authorities, such as the Federal Trade Commission and the Department of Justice, are in the best position to address the activities of mass aggregators and the market for patent monetization. Establishing the rules for this market, however, will require a certain amount of reorientation in the conceptualization of innovation markets.

¶181 The most natural FTC/DOJ regulatory structures for analyzing the activities of mass aggregators are those in the context of licensing and acquisition activity.[184] In licensing, the Agencies follow a set of basic principles that are applied to intellectual property licensing in general. These principles are that intellectual property is comparable to any other form of property and standard antitrust analysis applies, that intellectual property is not presumed to create market power, and that intellectual property licensing is generally procompetitive.[185] The Agencies believe that problems arise, however, when a licensing arrangement harms competition among entities that would have been actual or likely competitors in the absence of the arrangement.

¶182 In analyzing intellectual property licensing agreements, the Agencies consider three basic markets that can be affected by anticompetitive licensing restrictions: goods markets, technology markets, and innovation markets. Goods markets, of course, are those related to final or intermediate goods and their close substitutes. When rights to intellectual property rights are marketed separately from the products in which they are used, the Agencies use technology markets to analyze competitive

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Maryland Casualty Co. v. Pacific Coal & Oil Co., 312 U.S. 270, 273 (1941)) .

[181] *See* FELDMAN, *supra* note 102, ch. 2. Intellectual Ventures use of the phrase "invention gaps" provides an excellent example of such communications.

[182] *See* Feldman, *supra* note 177.

[183] *See* Complaint and Jury Demand at 6, Choate v. Intellectual Ventures, LLC, No 1:11-CV-00528-ckk (D.C. Mar. 14, 2011) (alleging that plaintiff was hired by Intellectual Ventures to generate opposition to changes in patent law by disputing the theory that the patent system is in crisis due to frivolous litigation; activities included writing article and monograph).

[184] Three agency reports are particularly useful for understanding the current agency approach. U.S. FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION (2011), *available at* www.ftc.gov/os/2011/03/110307patentreport.pdf [hereinafter EVOLVING MARKETPLACE]; U.S. DEPT. OF JUSTICE AND FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (2010), *available at* www.ftc.gov/os/2010/08/100819hmg.pdf [hereinafter MERGER GUIDELINES]; and U.S. DEPT. OF JUSTICE AND FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY (1995), *available at* http://www.justice.gov/atr/public/guidelines/0558.htm [hereinafter ANTITRUST LICENSING].

[185] *See* ANTITRUST LICENSING, *supra* note 184, at 2.

effects.[186] Technology markets consist of the intellectual property that is licensed and its close substitutes.

¶183 Finally, licensing arrangements may have competitive effects on innovation that cannot be adequately addressed through goods or technology markets. Thus, the Agencies have identified a third type of market, the innovation market, which is defined as the research and development directed to particular new or improved goods or processes.[187]

¶184 The Agencies do have particular guidelines for certain types of arrangements that may be relevant to the activities of mass aggregators, including guidelines on cross-licensing, pooling arrangements, and grantbacks. Grantbacks are licensing arrangements in which the license holder agrees to give the patent holder rights to any improvements on the invention.

¶185 In the case of pooling, for example, the guidelines note that exclusion from pooling arrangements can be anticompetitive if a) excluded firms cannot effectively compete in the relevant market and b) pool participants collectively poses market power in the relevant market.[188] Similarly, grantbacks may be found anticompetitive if they substantially reduce the licensee's incentives to engage in research and development.[189] One should note, however, that these concerns are analyzed against a backdrop of the Agencies' perspective that licensing is generally procompetitive.

¶186 In a 2011 report on The Evolving Intellectual Property Marketplace, the Federal Trade Commission took notice of increasing activity by what it called "patent assertion entities" or "PAEs" in the information technology industry.[190] In particular, the Agency noted the following:

> Some argue that PAEs encourage innovation by compensating inventors, but this argument ignores the fact that invention is only the first step in a long process of innovation. Even if PAEs arguably encourage invention, they can deter innovation by raising costs and risks without making a technological contribution.[191]

The report, however, notes the difficulty in distinguishing patent transactions that harm innovation from those that promote it, and rather than recommending antitrust action proposes various improvements in patent notice and remedies.

¶187 Although these are important considerations, a full analysis of the impact of mass aggregators requires identification of a different market. Even when Agencies think about separately marketed intellectual property rights or innovation markets, those categories are grounded in their relationship to a particular product market. Moreover, market power is measured in relationship to that product market.

¶188 When patent rights float unmoored from any underlying products on a large-scale, widespread manner such that they are traded and arbitraged, that activity begins to resemble a market of its own. This is the market we have been describing as the market for patent monetization. Viewed from this perspective, an entity could acquire market power in the market for patent monetization without necessarily holding a monopoly in any individual product markets.[192] Considering only product, technology, and innovation markets could miss a fair amount of worrisome activity.

¶189 Another way to think about floating patent rights and anticompetitive effects is the following: One may not need a monopoly on patents in a particular product market to create negative effects in that market. Perhaps one simply needs a large enough group of all kinds of patents in combination with tough tactics or even just a reputation for tough tactics.

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[186] *Id.* at 8.

[187] *Id.* at 10-11.

[188] *Id.* at 28.

[189] *Id.* at 30.

[190] *See* EVOLVING MARKETPLACE, *supra* note 184, at 8.

[191] *Id.* at 9.

[192] See the discussion above about Intellectual Ventures and the Ocean Tomo patent auctions, for example.

¶190 Moreover, the Agencies may need to reconsider the general principle that licensing is procompetitive. In the context of a market for intellectual property rights floating separately from invention or production, that general principle may be less applicable. One has to take a much harder look at licensing when it has become such an expansive activity that is separated so far from the activity of introducing new technologies.

¶191 The same types of considerations should be used for reorienting the Agencies' approach to acquisition of intellectual property rights. Section 7 of the Clayton Act requires that certain proposed acquisitions of assets be reported, which is interpreted as including patents. The FTC and DOJ may conduct a preliminary antitrust evaluation and decide whether to take enforcement action.[193]

¶192 Certain transfers of intellectual property rights and transaction that grant an exclusive license are analyzed by applying the principles and standards used to analyze mergers.[194] Such transactions may have the effect of removing a participant from the market, in the same manner as a traditional merger would.[195]

¶193 In any merger enforcement action, the Agencies will normally identify one or more relevant markets in which the merger may substantially lessen competition. Such market definitions focus solely on demand substitution factors, which are customers' ability and willingness to substitute away from one product to another. Again, the traditional Agency focus in this inquiry would be on the market for the products that can be made by the patents that are being purchased, but not on the market for patent monetization itself. Such an inquiry would miss a wealth of potential anticompetitive conduct and consequences.

¶194 In short, competition agencies should think about a market composed of floating intellectual property rights as its own market, in order to capture the potential for harm and mischief. Courts also must be willing to understand and approach patent markets in this manner. Although the focus initially may be on patents in this market, it is possible that over time it will become clear that the market for all intellectual property rights, including trade secrets and know-how as well as patents, should be considered.

¶195 Courts, agencies and government entities must also engage in doctrinal changes that will allow for the curative power of sunshine. As we encountered in trying to track the acquisition and litigation activity of the mass aggregators, many of the current doctrines in corporation and agency law allow aggregators to shield their identities from government view and from their competitors who may be subsequently blindsided in litigation. The targets themselves may be unable to determine who the aggregator is, sometimes even when the parties are in litigation. The less appealing behavior described above is much easier to carry out in secrecy than in the light of day. We should consider changes that will bring such activities to light, making them easier to monitor and evaluate their individual and cumulative effects.

B. Let the Sun Shine In

¶196 If society wishes to impose regulation on the market for patent monetization, regulators will need a method of monitoring behavior. One might also wish to make activity transparent to members of the public, who can be useful for alerting regulators to potential problems. In particular, where the law anticipates that society's interests may align with members of the public, lawmakers may choose to make information publicly available or to provide avenues for members of the public to advance actions on their own behalf.

¶197 Current laws provide limited opportunities for identifying and tracking activity in this market and many opportunities for hiding. Mass aggregators have sufficient access to capital and legal resources to take advantage of all opportunities offered and to prepare for a host of contingencies. Among

[193] For a description of notice and filing requirements, see *Premerger Introductory Guides*, U.S. FED. TRADE COMM'N (Oct. 24, 2011), http://www.ftc.gov/bc/hsr/introguides/introguides.shtm.

[194] ANTITRUST LICENSING, *supra* note 184, at 31.

[195] Such transactions may be assessed under § 7 of the Clayton Act, §§ 1-2 of the Sherman Act, and § 5 of the FTC Act.

other things, the mass aggregators have constructed elaborate corporate networks that narrowly confine the legal claims that can be brought against them, providing a firewall that protects the larger organization.

¶198 Consider Searete LLC, a fairly well-known Intellectual Ventures shell company[196] that exemplifies the complicated ownership and management structures employed by mass aggregators.[197] Searete has the type of complex and carefully woven legal structure that would make a defense lawyer beam with joy. It is a Delaware limited liability company with a presence in Nevada.[198] Searete's official manager in Nevada is "Nevada Licensing Manager, LLC," which is a Nevada corporation.[199] Nevada Licensing Manager's own manager is "Nevada Assets, LLC," which is a Delaware company.[200] At some point, Nevada Assets, LLC presumably connects with Intellectual Ventures, LLC or one of Intellectual Ventures' many investment funds. However, the connection might be little more than the ownership of shares, effectively rendering almost no one responsible for its actions.

¶199 The other 1,300 or more shell companies in Intellectual Ventures' organization exist in similarly obscure networks with the "parent" company, structures permitted by the corporate laws in many states. In short, the ownership and management structures for mass aggregators are often elaborate, and state corporation laws complicate the process of finding out who actually controls any given limited liability company.[201]

¶200 The ownership and control picture may not become much clearer even after litigation has begun, not only for the public but for the litigants as well. Rule 7.1 of the Federal Rules of Civil Procedure requires all nongovernmental litigants to disclose their parent corporation and any publicly held corporation owning 10% or more of their stock.[202] The rule's purpose is not to discover litigation motives and corporate activities, but to assist judges in disqualifying themselves due to conflicts of interest.[203] The rule's focus on parents and public companies, however, limits its effectiveness in disclosing the parties ultimately behind patent monetization activity, especially with mass aggregators that are not public companies.

¶201 Individual courts may impose additional disclosure rules that may bring further information to light. Some jurisdictions use variations of the rule. For example, the Central District of California employs the variation, known as a "Certification as to Interested Parties," that requires disclosure of a much broader range of parties. The variation states:

> L.R. 7.1-1 Certification as to Interested Parties.1 To enable the Court to evaluate possible disqualification or recusal, counsel for all non-governmental parties shall file with their first appearance an original and two copies of a Notice of Interested Parties which shall list all persons, associations of persons, firms, partnerships and corporations (including parent corporations clearly identified as such) which may have a pecuniary interest in the outcome of the case, including any insurance carrier which may be liable in whole or in part (directly or indirectly) for a judgment that may be entered in the action or for the cost of defense. Counsel shall be under a continuing obligation to file an amended certification if any

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[196] John Letzing, *Microsoft's Big Brains Spill Into Patent Firm*, MARKETWATCH (Feb. 4, 2009) http://www.marketwatch.com/story/microsofts-big-brains-spill-over-patent.

[197] Intellectual Ventures parks many of its "inventioneering" patent applications in Searete. *Id.*

[198] Delaware Corporations file 3776428 shows that Searete LLC was formed on March 12, 2004. DELAWARE DIVISION OF CORPORATIONS, https://delecorp.delaware.gov (search "file number" for "3776428"). Nevada Corporations records show that Searete LLC, Nevada Corporate Id NV20041267664 was registered in Nevada on Nov. 15, 2004. NEVADA BUSINESS ENTITY SEARCH, http://nvsos.gov/sosentitysearch/CorpSearch.aspx (search "NV Business ID" for "NV20041267664").

[199] NEVADA BUSINESS ENTITY SEARCH, http://nvsos.gov/sosentitysearch/CorpSearch.aspx (search "NV Business ID" for "NV20041267664"). Nevada Corporation records show that Nevada Licensing Manager, Nevada Corporate ID NV20041268216 was created on Nov. 15, 2004. *Id.* (search "NV Business ID" for "NV20041267664").

[200] Delaware Corporations file 3881571 shows that Nevada Assets, LLC was also created on Nov. 15, 2004. DELAWARE DIVISION OF CORPORATIONS, https://delecorp.delaware.gov (search "file number" for "3881571").

[201] Nevada, for example, is known for being particularly respectful of such information. Some, but far from all, foreign corporations laws are also protective of such information while other countries require full disclosure.

[202] FED. R. CIV. P. 7(a)(1).

[203] *See* GLEN WEISSENBERGER, FEDERAL CIVIL PROCEDURE LITIGATION MANUAL 7.1.1 (Matthew Bender, 2010).

> material change occurs in the status of interested parties as, for example, through merger or acquisition, or change in carrier which may be liable for any part of a judgment.[204]

¶202 Some other courts use a similarly worded variation requiring that at a first appearance in any proceeding with the court, the party must file a "Certification of Interested Entities or Persons":

> (1) The Certification must disclose any persons, associations of persons, firms, partnerships, corporations (including parent corporations), or other entities other than the parties themselves known by the party to have either: (i) a financial interest (of any kind) in the subject matter in controversy or in a party to the proceeding; or (ii) any other kind of interest that could be substantially affected by the outcome of the proceeding.
>
> (2) For purposes of this Rule, the terms "proceeding" and "financial interest" shall have the meaning assigned by 28 U.S.C. 455 (d)(1), (3) and (4), respectively.
>
> (3) If a party has no disclosure to make pursuant to subparagraph (b)(1), that party must make a certification stating that no such interest is known other than that of the named parties to the action.[205]

¶203 These additional disclosure rules of either variety have proven somewhat more effective in revealing the parties ultimately behind various Non-Practicing Entity patent litigations. For example, Intellectual Ventures' involvement in several cases was not initially disclosed under Rule 7.1 but was later disclosed under the local rule variations, including one case in which a major portion of its investors were disclosed.[206]

¶204 For example, in *Oasis Research, LLC v. Adrive, et al.*[207], the Rule 7.1 disclosure by Oasis Research stated that the company had no parent corporation and that no publicly held corporation owned 10% or more of its stock.[208] But seven months later in complying with a local rule similar to one of the variations above, Oasis Research disclosed that "Intellectual Ventures Computing Platforce Assets LLC" had a financial interest in the outcome of the case.[209] Intellectual Ventures co-founder Peter Detkin later conceded during a radio interview that Intellectual Ventures Computing Platforce Assets, LLC was an Intellectual Ventures shell company.[210]

¶205 Similarly, in *Xilinx v. Invention Investment Fund I LP*,[211] the plaintiff Xilinx filed a declaratory judgment action in California against six Intellectual Ventures affiliated companies shortly after Intellectual Ventures affiliated companies sued three Xilinx competitors in Delaware.[212] Xilinx and Intellectual Ventures had been in licensing discussions prior to the filing of the lawsuit;[213] Xilinx is also apparently an investor in Intellectual Ventures.[214]

¶206 In the California lawsuit, Intellectual Ventures and Xilinx engaged in a battle of motions concerning whether the disclosure could be filed under seal or for attorneys' eyes only, rather than

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[204] C.D. Cal. R. 7.1-1, *available at* http://www.cacd.uscourts.gov (click "Local Rules" link, then search for "7.1" and select "F.R.Civ.P. 7.1 Disclosure Statement").

[205] N.D. Cal. R. 3-16, *available at* http://www.cand.uscourts.gov/filelibrary/3/Civ6-11.pdf (referring to definitions from 28 U.S.C. § 455).

[206] *See* Defendants' Certificate Of Interested Entities Or Persons Pursuant To Civil Local Rule 3-16 and F.R.C.P. 7.1, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. May 16, 2011).

[207] Oasis Research, LLC v. Adrive, No. 4:10-CV-00435-MHS ALM (E.D. Tex. filed Aug. 30, 2010). The case is still pending.

[208] Rule 7.1 Disclosure Statement, Oasis Research, LLC v. Adrive, No. 4:10-CV-00435-MHS-ALM (E.D. Tex. Aug. 31, 2010).

[209] Plaintiff Oasis Research, LLC's Disclosure Pursuant To The Court's Order To Meet, Report And Appear At Scheduling Conference, Oasis Research, LLC v. Adrive, No. 4:10-CV-00435-MHS-ALM (E.D. Tex. Mar. 10, 2010).

[210] *See* Blumberg & Sydell, *supra* note 5.

[211] Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. filed Feb. 14, 2011).

[212] Intellectual Ventures I LLC v. Altera Corp, No. 1:10-CV-01065-LPS (D. Del. filed Dec. 8, 2010).

[213] *See* Intellectual Ventures Motion to Dismiss at 6, 9, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. filed Apr. 11, 2011) (Intellectual Ventures describes its negotiations with Xilinx as "routine patent licensing discussions" but concedes that after two months of negotiations, the parties had not even agreed to a non-disclosure agreement that would "allow more detailed technical discussions to proceed").

[214] Of the four Intellectual Ventures funds listed in Intellectual Ventures' disclosure of interested parties, Xilinx is listed as a potentially interested party in two of the funds. Defendants' Certificate Of Interested Entities Or Persons Pursuant To Civil Local Rule 3-16 and F.R.C.P. 7.1, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. May 16, 2011).

publicly. As the parties' motions began flying across the judge's bench, the judge recused herself, presumably because she became aware of the identities of the interested parties, and a new judge was appointed.[215] The new judge accepted Xilinx' arguments and the Intellectual Ventures parties disclosed publicly a list of investors including more than 50 entities, such as the World Bank, the Mayo Clinic, the William and Flora Hewlett Foundation, and several universities.[216]

¶207 In *Xilinx*, the court has now dismissed several of the Intellectual Ventures parties on the grounds that they were not the legal owners for some of the patents specifically mentioned in Xilinx's declaratory judgment action.[217] The legal owners for these patents include some seven other Intellectual Ventures shell companies,[218] and the California judge has transferred this portion of the lawsuit to Delaware.[219] So, the network of affiliated shell companies seems to have served Intellectual Ventures well in this case because its network was so vast that Xilinx did not identify the formal owner among a group of extremely related parties, allowing transfer of portions of the case to Delaware. The case is a cautionary tale for any company targeted by a mass aggregator that one should pay careful attention to who actually owns the patents being pushed in a licensing campaign, as opposed to who is doing the licensing negotiation or who may ultimately receive the funds from the licensing or litigation. Thus, for example, when a licensing target decides to file a declaratory judgment action based on a campaign launched by Chilly Willy Licensing, LLC for the benefit of Chilly Willy Licensing Partners LP, the target should make sure to name Chilly Willy Patent Holding LLC in the complaint and be grateful that the corporate names include their function in the overall enterprise—otherwise, Chilly Willy Patent Holding will file its own complaint in the jurisdiction of its choosing while Chilly Willy Licensing seeks dismissal from the declaratory judgment action on grounds that it is not the patent owner.

¶208 Outside the disclosure requirements designed for judicial recusal, entities have considerable ability to camouflage their ownership. Most states offer corporate forms that allow companies to shield the identity of their owners, typically in the context of a limited liability company ("LLC") format. In some states, such as Delaware, no public information is provided regarding the owners of such companies. Other states, such as Nevada, allow limited public disclosure of an LLC's management, although the disclosure is also too limited to identify the ultimate owners or the names of real persons responsible for their day-to-day affairs.

¶209 For private actors in patent litigation against mass aggregator shell companies, finding the identity of the owners or investors is only one hurdle; holding the owners or investors liable for the activities of the shell corporation is far more difficult. Under most circumstances, a corporation is regarded as a legal entity separate and distinct from its stockholders, officers, directors, and investors. When a corporation is used by another entity to perpetrate fraud, circumvent a statute, or accomplish some other wrongful or inequitable purpose, however, a court may pierce the corporate veil and treat the corporation's acts as if they were done by those controlling the corporation.[220]

¶210 In battles over piercing the corporate veil, the structures being adopted by some of the mass aggregators may be helpful in protecting them. A key predicate in piercing the corporate veil

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[215] Judge Koh recused herself from the case on April 28, 2011. Order of Recusal, Xilinx v. Invention Investment Fund I LP, No. 11-CV-00671-LHK (ND Cal. Apr. 28, 2011). Judge Koh became a Superior Court judge in 2008 and a federal judge as recently as 2010; prior to that she was in private practice. By contrast, Judge Illston, who was assigned to the case after Judge Koh, has been a federal judge since 1995.

[216] Defendants' Certificate Of Interested Entities Or Persons Pursuant To Civil Local Rule 3-16 and F.R.C.P. 7.1, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. May 16, 2011).

[217] *See* Order Re: Motions To Enjoin, Dismiss And/Or Transfer, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. July 27, 2011).

[218] Defendants' Motion To Dismiss Xilinx's Complaint For Declaratory Judgment, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. Apr. 11, 2011) (the chart on page 12, lines 6-11 identifies the owners of the patents subject to declaratory judgment as Intellectual Ventures affiliates Detelle Relay KG, LLC, Roldan Block NY, LLC, Latrosse Technologies, LLC, TR Technologies Foundation LLC, Taichi Holdings, LLC, Noregin Assets N.V., LLC, and Intellectual Venture Funding LLC).

[219] *See supra* note 211.

[220] *See, e.g.*, Communist Party v. 522 Valencia, Inc., 35 Cal. App. 4th 980, 993 (1995).

concerns the presence or absence of distinct legal entities.[221] Some mass aggregators, such as Intellectual Ventures and Transpacific, are structured so that each layer is a distinct legal entity, providing a measure of protection. Courts are extremely reluctant to pierce the corporate veil in most circumstances,[222] and the carefully crafted legal structures will make it particularly difficult to disregard the corporate form.

¶211 Piercing the corporate veil is less of a direct issue for antitrust actions brought by either private plaintiffs or competition authorities. Under those circumstances, the mass aggregator and its shell company or third-party privateer could conceivably be charged with concerted action in violation of the antitrust laws.[223] At the very least, however, such actions would require alteration of the definition of relevant markets, as well as an enhanced system for monitoring relevant behavior.

C. Removing the Teeth of the Tiger

¶212 We cannot close the article without highlighting the systemic problems giving rise to the phenomenon of mass aggregation. One must keep in mind the peculiar elements that have brought us to the point at which large, respectable companies feel the need to sign onto patent defense funds. These are the same elements that make mass aggregation activity so potentially troubling.

¶213 Troll behavior, whether small or aggregated, is fueled by a patent system that lacks a cost-effective method of quickly resolving validity and infringement questions. There are better uses for federal courts than using them as forums for conducting licensing negotiations. A copious supply of patents that are only lightly tested at the time of the grant enhances the problem. As long as insufficient information, uncertainty, and high transaction costs reign, troll activity will continue to flourish. We should focus our efforts not only on limiting troubling behavior among mass aggregators but also on making trolling a less lucrative endeavor in the first instance.

CONCLUSION

¶214 The patent world is poised to undergo a change of astounding proportions. A system that has operated such that the vast majority of patents bring little or no return is shifting to a system in which a substantial number of patents will become traded and monetized, largely through a system of mass aggregators. The giants among us are undoubtedly changing the patent world. The question that remains is how.

¶215 One could argue that mass aggregators could potentially have positive effects. Mass aggregators might potentially ensure that the forgotten inventor receives the compensation due or could serve as a middleman to connect inventors with capital and expertise. Mass aggregators could also serve as litigation defense funds, providing Just-in-Time patenting and creating a powerful weapon stream that will deter troublesome infringement suits. Mass aggregators may also reduce troll activity by soaking up the supply of monetizable patents. The question, however, is whether the cure is worse than the disease.

¶216 In particular, the same market characteristics that have led to the rise of troll activity are likely to plague the activities of mass aggregators as well. Without changing the basic incentive structures of the patent system, mass aggregation will be no better than the current patent system at rewarding the deserving inventor and greasing the wheels of innovation while protecting diligent producing companies. Moreover, the activity of mass aggregation brings its own potential harms. Rather than contributing technological innovations, mass aggregators operate as a tax on current production, burdening existing products and potentially reducing future innovation and productivity. In addition,

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[221] *See* Nelson v. Adams USA, Inc., 529 U.S. 460, 470-71 (2000).

[222] *See, e.g.*, Sonora Diamond Corp. v. Superior Ct., 83 Cal. App. 4th 523, 539 (2000) (noting that alter ego [piercing the corporate veil] is an extreme remedy, sparingly used); *accord* Dole Food Co. v. Patrickson, 538 U.S. 468, 475 (2003).

[223] One might also try to establish that third-party privateers were acting as agents on behalf of the mass aggregator. *See* RESTATEMENT (THIRD) OF AGENCY § 1 (2006) (focusing on whether the purported agent acts on the principal's behalf and subject to the principal's control).

characteristics of the market for patent monetization make it an excellent vehicle for anticompetitive behavior, including horizontal collusion and single firm or multi-firm behavior that raises rivals' costs. Most important, the basic business model of mass aggregation is troubling. The successful aggregator is likely to be the one that frightens the greatest number of companies in the most terrifying way. This may not be an activity that society wants to encourage.

¶217 These and other concerns suggest that mass aggregators and the market for patent monetization should not be allowed to flourish unchecked. The burgeoning market must be properly monitored, regulated, and restricted so that the considerable risks associated with this activity may be fully contemplated and cabined.

APPENDIX A: UNIVERSITIES

- Alabama, University of
- Brigham Young University
- Bristol, University of
- British Columbia, University of
- Brunel University
- California Institute of Technology
- California, the Regents of the University of
- Campinas State University (Brazil)
- City University London
- Clemson University
- Connecticut, University of
- Darmstadt, Technical University of
- Duke University
- Florida Institute Of Technology
- Florida, University of
- Helsinki University of Technology
- Hiroshima University
- Hong Kong University
- Indian Institute of Technology - Bombay
- Kyushu University
- Manitoba, University of
- McMaster University
- Monash University
- New Jersey Institute of Technology
- New Mexico, University of
- New South Wales, University of
- North Carolina at Charlotte, University of
- Oklahoma, University of
- Ottawa, University of
- Oulu, University of
- Polytechnic University
- Ramot at Tel Aviv University
- Rhode Island University
- Rochester Institute Of Technology
- Rochester, University of
- Rutgers University
- Singapore, National University of
- Southern Mississippi, University of
- Stevens Institute Of Technology
- Stirling, University Of
- Strathclyde, University of
- Texas, University System, the Board Of Regents
- University of California San Diego
- Western Sydney, University of
- Westminster, University of

APPENDIX B

Investors in Various Intellectual Ventures Funds as Reported by Intellectual Ventures in *Xilinx v. Intellectual Ventures Investment Fund I, L.P. et a*l. on May 16, 2011

No.	Investor	Invention Investment Fund I	Invention Investment Fund II	Intellectual Ventures I	Intellectual Ventures II	Notes
	OPERATING COMPANY					
1.	Adobe Systems Incorporated		Financial Interest			
2.	Amazon.com NV Investment Holdings Inc., an affiliate of Amazon.com, Inc.	Financial Interest	Financial Interest			
3.	American Express Travel Related Services Company, Inc.	Financial Interest				
4.	Apple, Inc.	Financial Interest	Financial Interest		Financial Interest	
5.	Cisco Systems, Inc.		Financial Interest		Financial Interest	
6.	eBay Inc.	Financial Interest	Financial Interest			
7.	Google Inc.	Financial Interest				
8.	Intel Corporation	Financial Interest	Financial Interest			
9.	Microsoft Corporation	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
10.	Nokia Corporation	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
11.	Nvidia International Holdings, Inc., an affiliate of Nvidia Corporation	Financial Interest	Financial Interest			
12.	SAP America, Inc.	Financial Interest	Financial Interest			
13.	Sony Corporation	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
14.	Verizon Corporate Services Group Inc.		Financial Interest		Financial Interest	
15.	Xilinx, Inc.	Financial Interest	Financial Interest			
16.	Yahoo! Inc.	Financial Interest	Financial Interest			
	INVESTMENT FUND					
17.	Allen SBH Investments LLC	Financial Interest		Financial Interest		Entity related to the Allen & Company LLC
18.	Charles River Ventures	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
19.	Commonfund Capital Venture Partners VII, L.P.	Financial Interest		Financial Interest		Verne Sedlacek is president & CEO
20.	Flag Capital		Financial Interest		Financial Interest	Diana H. Frazier and Peter Lawrence co-founded Flag

21.	JP Morgan Chase Bank, N.A., as trustee for White Plaza Group Trust	Financial Interest		Financial Interest		It is not clear who are the beneficiaries of the White Plaza Group Trust.
22.	Certain funds of McKinsey and Company, Inc.		Financial Interest		Financial Interest	
23.	Next Generation Partners V, L.P.	Financial Interest		Financial Interest		Appears to be related to Flag Capital
24.	Sequoia Holdings, LLC	Financial Interest		Financial Interest		Sequoia was founded by David Beisner
25.	Sohn Partners		Financial Interest		Financial Interest	
	FOUNDATION/UNIVERSITIES/NON-PROFITS					
26.	Board of Regents of The University of Texas System		Financial Interest		Financial Interest	
27.	The Board of Trustees of the Leland Stanford Junior University		Financial Interest		Financial Interest	
28.	Brown University		Financial Interest		Financial Interest	
29.	Bush Foundation		Financial Interest		Financial Interest	The Archibald Bush Foundation was established by a former 3M chairman.
30.	Cornell University	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
31.	Dore Capital, L.P., and affiliate of The Vanderbilt University	Financial Interest		Financial Interest		Dore appears to have a relationship with Apax Europe VI-A, L.P.
32.	The Flora Family Foundation		Financial Interest		Financial Interest	Founded by William Hewlett and Flora Hewlett.
33.	Grinnell College		Financial Interest		Financial Interest	
34.	Howard Hughes Medical Institute	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
35.	International Bank for Reconstruction and Development, as trustee		Financial Interest		Financial Interest	The IBRD is one of five banks that comprise the World Bank
36.	Legacy Ventures		Financial Interest		Financial Interest	Russ Hall, Alan Marty, and Chris Eyre are the managing directors
37.	Mayo Clinic and Mayo Foundation Master Retirement Trust	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
38.	Northwestern University	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
39.	Reading Hospital		Financial Interest		Financial Interest	A non-profit hospital located in Reading, Penn.

40.	The Rockefeller Foundation	Financial Interest		Financial Interest		
41.	Skillman Foundation		Financial Interest		Financial Interest	A Detroit-based charity that includes a member of the Ford family in its board of directors.
42.	TIFF Private Equity Partners	Financial Interest	Financial Interest	Financial Interest	Financial Interest	TIFF: "The Investment Fund of Foundations," is an investment cooperative.
43.	Trustees of the University of Pennsylvania		Financial Interest		Financial Interest	
44.	University of Southern California		Financial Interest		Financial Interest	
45.	University of Minnesota		Financial Interest		Financial Interest	
46.	The William and Flora Hewlett Foundation		Financial Interest		Financial Interest	
	INDIVIDUALS					
47.	Dobkin, Eric	Financial Interest	Financial Interest	Financial Interest	Financial Interest	Appears to be Eric Dobkin, an advisory director to Goldman Sachs and Chairman Emeritus of Global Equity Capital Markets
48.	Fields, Richard	Financial Interest	Financial Interest	Financial Interest	Financial Interest	This may be Richard Fields, Chairman of Coastal Development, LLC
49.	Gould, Paul	Financial Interest		Financial Interest		This may be Paul Gould, a director of Allen & Co.
50.	Holiber, Adam		Financial Interest		Financial Interest	The may be Adam Holiber, president of Summit Equity
51.	Peretsman, Nancy	Financial Interest	Financial Interest	Financial Interest	Financial Interest	This would appear to be Nancy Peretsman, a director of priceline.com and managing director at Allen & Company LLC

APPENDIX C

A. Introduction

¶1 This appendix summarizes the methodology employed in uncovering Intellectual Ventures patent holdings.[1] Our methodology relies on two broad categories of similarities among the 1,276 Intellectual Ventures shells that we have identified. We will term the first category "corporate similarities" and the second category "patent prosecution similarities." These two sets of similarities are reasonably independent of each other and thus provide some confidence that a suspected shell company has a relationship with Intellectual Ventures.

¶2 We first reviewed the open literature about Intellectual Ventures. Many of these articles identified a few of Intellectual Ventures' shell companies.[2] Other articles identified companies that had purportedly sold or licensed patents to Intellectual Ventures. We next reviewed corporate records for those publicly identified Intellectual Ventures shell companies. After observing similarities in the structure of these shell companies, we expanded our investigation to look for other companies sharing the same characteristics.

¶3 Using this initial list of shell companies, we searched the US Patent & Trademark Office's assignment database to find which companies were listed as the assignees or licensees of patents and/or published applications. Where possible, we attempted to find public information about the transactions involved. We performed this process iteratively several times in order to expand the list of shell companies. Thus, the first phase of our research comprised looking for "corporate similarities" among suspected shell companies.

¶4 The second phase of our research concerned reviewing "patent prosecution similarities." In this phase, we reviewed the patent portfolios of the shell companies to look for active cases—pending applications, continuations, and reissue applications—under the assumption that the new owner would have likely filed a new power of attorney in order to take over prosecution of the case from the previous owner.[3] We also reviewed assignment data for the patents where available. We assumed that the information gleaned from these information sources would provide independent support for the "corporate similarities" uncovered in the first phase and in many cases actually include the name of an Intellectual Ventures executive, employee, or agent. We then integrated the results of our findings, conducting further research into Intellectual Ventures' corporate organization and its apparent business plans.

¶5 Finally, we prepared integrated lists of the patents and published applications for the shell companies that we found.[4] This phase also included determining the first International Patent Classification (IPC) class for the patents and applications since the Intellectual Ventures portfolio need not necessarily have a single specific technology focus. If this portfolio contained fewer than 100 patents, then it might be sufficient to simply list the patents by number and title. However, with 11,000+ patents and pending applications spread across a variety of technologies, understanding this portfolio suggests that the patents also be organized by technical subject matter.

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[1] The methodology discussed here describes techniques that enabled author Tom Ewing to create an initial survey of Intellectual Ventures' holdings in 2007. The data have been expanded and updated with the most recent version in May 2011. On the model of Lex Machina, which was originally a project of Stanford Law School, the database is available for a cost to commercial entities from author Tom Ewing. Certain use of the database is available on different terms to academics.

[2] *See, e.g.*, Victoria Slind-Flor, IV Moves From Myth To Reality, 32 Intellectual Asset Management August/September 2006 (the article identifies 48 Intellectual Ventures shell companies).

[3] *See, e.g.*, 37 CFR 1.32 Power of Attorney, available at http://www.uspto.gov/web/offices/pac/mpep/consolidated_rules.pdf *and* Manual of Patent Examining Procedure Sec. 402; available online at http://www.uspto.gov/web/offices/pac/mpep/documents/0400_402.htm#sect402.

[4] We provide detailed listings of patents in our full Intellectual Ventures report.

¶6 The documents found during this investigation provide a rich source of information that further link the apparent shell companies to Intellectual Ventures and suggest avenues for future research. After providing an overview of our methodology, we will discuss how our methodology was employed to discover two specific Intellectual Ventures shell companies. These shell companies are Ben Franklin Patent Holding, LLC and Northstar Acquisitions, LLC. Ben Franklin Patent Holding, LLC is a fairly well-known Intellectual Ventures shell company that has been mentioned in several articles about Intellectual Ventures.[5] Ben Franklin is also a fairly easy shell company to trace to Intellectual Ventures because its portfolio came from another Intellectual Ventures shell named Intellectual Ventures Patent Holding I, LLC in a transaction conducted on Nov. 18, 2003.[6] Northstar Acquisitions, LLC is another company that we suspected was an Intellectual Ventures shell based, among other things, on certain similarities that Northstar shares with Ben Franklin. We eventually found documents signed by an Intellectual Venture employee/agent who had also signed documents for Ben Franklin. To our knowledge, Northstar had not been identified as an Intellectual Ventures shell company prior to our original 2007 report.

B. Corporate Similarities

¶7 We first studied Intellectual Ventures' apparent corporate structure, focusing primarily on the shell companies. We next studied the available corporate information about these publicly identified shell companies in order to find characteristics or features that might reveal other shell companies. We noticed that all of the publicly identified shell companies were of the "limited liability company," or "LLC" form. We further noticed that the publicly identified shell companies were generally registered in either Delaware or Nevada.

¶8 We also noted that the sole addresses for the Delaware companies were:

- 2711 Centerville Road Suite 400, Wilmington, DE 19808,
- 1209 Orange Street, Wilmington, DE 19801, or
- 160 Greentree Drive Suite 101, Dover, DE 19904

These addresses correspond to addresses for the three largest registered agency firms in the US. The Centerville Road address is the address for the Corporation Service Company (CSC). The Orange Street address is the address for the Corporation Trust Company (CTC), and the Greentree Drive address is the address for National Registered Agents, Inc. (NRA).[7]

¶9 Similarly, the Nevada registered companies have addresses that correspond to the Nevada address for these same registered agency firms. For example, many companies have the CSC's Centerville Road address listed for Delaware and CSC's 2215-B Renaissance Drive, Suite 5, Las Vegas, NV 89119 address as their registered Nevada address.[8]

¶10 The organization of the Nevada registered companies allowed us to find additional shell companies. For example, the listed manager in Nevada for the three publicly identified Intellectual Ventures shells Poulsen Transmitter LLC, Smeaton Pump LLC, and Twain Typesetting LLC is "Gigaloo LLC."[9] We were curious to see if Gigaloo LLC was the manager for any other companies

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[5] Sind-Flor, *supra* note 2.

[6] *See, e.g.*, Reel/Frame: 014770/0486, US Patent Office Assignment Database for US Patent No. 5675811, recording the change of name from Intellectual Ventures Patent Holding I, L.L.C. to Ben Franklin Patent Holding LLC, available at http://assignments.uspto.gov/assignments/q?db=pat&reel=014770&frame=0486 (last visited Nov. 30, 2011.).

[7] *See*, Delaware Authorized Searchers, Delaware Secretary of State, which lists all three companies at these addresses; available at http://corp.delaware.gov/uccauthsrch.shtml (last visited Nov. 30, 2011).

[8] *See, e.g.*, LVL Patent Group, LLC v. DirectTV, Inc., Echostar Technologies, L.L.C; Echostar

Corporation and Dish Network L.L.C., 1:99-mc-09999 (D. Del. 2011) ("EchoStar Corp. has appointed CSC Services of Nevada, Inc., 2215-B Renaissance Drive, Las Vegas, Nevada 89118, as its agent for service of process."), available at: http://morrisjames.files.wordpress.com/2011/09/lvl-patent-group-llc-v-directv-inc-et-al.pdf.

[9] On the Nevada Secretary of State business entity website, select "officer" and enter "Gigaloo" in the "last name" field. The search will produce these 10 companies managed by Gigaloo, LLC. We first performed this search on May 30, 2007 and most recently performed it on Nov. 30, 2011; website available at http://nvsos.gov/sosentitysearch/corpsearch.aspx.

in Nevada. Our inquiry revealed that seven other companies—Ayscough Visuals LLC, Fahrenheit Thermoscope LLC, Hollerith Statistics LLC, Maiman Laser Systems LLC, McGill Fastenings LLC, Newcomen Engine LLC, and Ochoa Optics LLC—were also managed by Gigaloo. We observed that these seven companies also shared the characteristics that drew us to the first three shell companies.

¶11 As a backup test, we spot checked the USPTO assignment database and discovered that all 10 Gigaloo-managed companies, except for McGill Fastenings, were assigned patents in transactions recorded from 2004-2007[10]. As a further test, we spot-checked this list to see if any of these companies seemed to have a presence on the web that indicated actual commercial activity. For example, could we find any mention of Hollerith Statistics LLC as a going entity with an actual office and an actual staff? For the companies that we spot-checked, we found nothing.

¶12 This process led us to notice additional commonalities among these companies. For example, we noticed that many of Intellectual Ventures' early shell companies have two-part names that are either derived from the work of a famous artist or scientist (*e.g.*, Steinbeck Cannery LLC), or contain a color (*e.g.*, Purple Mountain Server), or a geographical location (*e.g.*, Baldwyn Brices Cross Roads[11]). We later observed that some of the shells seemed to have been named after minerals and other chemical compositions.

¶13 We further observed that many of the shell companies were also created in both Delaware and Nevada on similar, if not the same, dates. For example, of the 51 management companies, 34 were incorporated in Delaware on Sept. 7, 2004, and all the companies managed by Algorythm LLC were created on March 17, 2005.[12] We also noticed that some shell companies seemed to have been formed in Nevada only and have no Delaware counterpart. We have similarly observed that other shell companies have been formed in Delaware only with no Nevada counterpart.

¶14 Our list of corporate characteristics for the Nevada companies eventually included: 1) LLC corporate form, 2) a Nevada corporation, or a Delaware corporation also registered in Nevada, 3) identical addresses for registered agents in Delaware and Nevada, 4) similar dates of corporate formation, 5) recipient of patents assigned/licensed between 2000-2007, 6) no corporate existence prior to Intellectual Ventures' formation in 2000, 7) no recorded patents prior to Intellectual Ventures' formation in 2000, 8) management by a company having a one-word name that also has the LLC corporate form, and 9) approximately 10 companies under management by the LLC management company where none of the 10 companies seemed to have an independent commercial existence.

C. Patent Prosecution Similarities

¶15 A patent prosecution file history may provide information about who owns a patent and/or the company ostensibly prosecuting the patent. When a patent or pending application is purchased, the new owner will not only want to register his ownership of the patent with the USPTO, he will also want to assume control over the prosecution of any pending patent applications.[13] In order to assume control, the patent owner must file a new power of attorney with the USPTO and must also

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[10] We conducted this research in preparation for the first edition of our report in 2007. Searches for later editions did not terminate in 2007. We note that McGill Fastenings had no patents recorded against its name in 2007 and in 2011 still has no patents recorded against its name, according to the USPTO assignment database. This does not mean that the company holds no patent rights.

[11] We noticed that the names of some Intellectual Ventures shells, such as Baldwyn Brices Cross Roads, curiously seemed to be found in a sample template available with the Shoebox program for organizing photographs by their content. This may be mere coincidence or it might possibly provide some support for the rumor that the names of Intellectual Ventures shells are selected by a computer. One Shoebox template can be found at: http://www.kavasoft.com/Shoebox/categories/examples/Things/National_Parks.html.

[12] Algorythm LLC manages Reverb Communications LLC, Teledata Sound LLC, Home Systems LLC, Portable Management LLC, Null Networks LLC, Meyer Cordless LLC, Mobile Lines LLC, Discobolus Management LLC, Logic Data Funds LLC, And Redirection LLC. This search can be replicated by entering "Algorithm" in the "first name" field and "LLC" in the last name field for "officer" on the Nevada Secretary of State's website. If one then checks the history for each of the companies, one sees that they were all registered in Nevada on March 17, 2005.

[13] Supra note 3.

typically file a statement that shows a chain of title. These documents are typically signed by a person working for, or authorized by the new owner.[14] Thus, these documents provide an opportunity to find the name of a person associated with the patent-owning company.

¶16 For example, Creative Mines LLC is a company that had not been identified as an Intellectual Ventures shell prior to our 2007 report. Using the corporate similarities methodology discussed above, we found Creative Mines by first finding Searete LLC, which is a publicly identified Intellectual Ventures shell company. We next located the manager for Searete in Nevada, which is Nevada Licensing Manager LLC.[15] We next searched for other companies managed by Nevada Licensing Manager, which led us to, led us to consider Creative Mines. When we searched for agreements involving Creative Mines, we found the following agreement[16] which not only identifies Creative Mines but also ties the company to Intellectual Ventures:

ASSIGNMENT

WHEREAS, Applied Minds, Inc. (hereinafter referred to as ASSIGNOR), having a post office address of 1209 Grand Central Avenue, Glendale, CA 91201, is the assigned owner of an invention entitled "METHOD AND SEQUENCES FOR DETERMINATE NUCLEIC ACID HYBRIDIZATION," as described and claimed in the specification for which an application for United States letters patent was filed on March 28, 2001, and assigned Application No. 09/821,694; and

WHEREAS, Creative Mines LLC (hereinafter referred to as ASSIGNEE), a Delaware limited liability company qualified to do business in Nevada as a foreign limited liability company, having a place of business at 1756 – 114th Ave. S.E., Suite 110, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries;

¶17 The 1756—114th Ave. SE, Ste. 110, Bellevue, Washington address has been Intellectual Ventures' address.[17] This address may be found in numerous Intellectual Ventures documents, including the self-reported employer address of Intellectual Ventures provided by co-founder Greg Gorder on the Washington State Bar Association website, which is provided below. Thus, a company found only by the methodology laid out above was shown to be linked to Intellectual Ventures by reviewing the patent file history for a patent owned by the shell company.

¶18 The power of attorney document for the Creative Mines patent applications was signed by Greg Gorder who also placed his personal assistant's phone number at Intellectual Ventures on the power of attorney document.[18] This phone number has Intellectual Ventures' main exchange but is slightly different from the number that Gorder provided to the Washington State Bar Association.[19]

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[14] *Id.*

[15] *See* notes 196-199 in the main article.

[16] The agreement may be found on the USPTO's PAIR database under patent application 09/821,694 (now US Patent 6,949,340; select the "Image File Wrapper" tab and then select the PDF for the document "Oath or Declaration" filed on June 28, 2005. The selection above is found on page 2. The PAIR website may be accessed at http://portal.uspto.gov/external/portal/pair.

[17] *See, e.g.*, Matt Rainey, "Comments on NPRM re Reexam rules," USPTO website, available at: http://www.uspto.gov/web/offices/pac/dapp/opla/comments/ab77/iv.pdf.

[18] *Supra* note 16 at 1.

[19] *See*, Greg Gorder entry on the Washington State Bar Association webpage; search originally conducted June 14, 2007; search repeated Nov. 30, 2011 with same results but for updated address for Intellectual Ventures; WSBA lawyer directory available at: http://www.mywsba.org/default.aspx?tabid=178&RedirectTabId=177&Usr_ID=15288.

PTO/SB/96 (09-04)
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Creative Mines LLC

Application No./Patent No.: 09/821,694 Filed/Issue Date: March 28, 2001

Entitled:

Creative Mines LLC (Name of Assignee), a Delaware Limited Liability Company (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:
1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____%

in the patent application/patent identified above by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: William Daniel Hillis To: Applied Minds, Inc.
The document was recorded in the United States Patent and Trademark Office at Reel 011907, Frame 0227, or for which a copy thereof is attached.

2.. From: Applied Minds, Inc. To: Creative Mines LLC
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	6/28/2005 Date
Greg Gorder Printed or Typed Name	425-467-2315 Telephone Number
Managing Director Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Washington State Bar Association Thursday, June 14, 2007

Public Member Sponsor Help

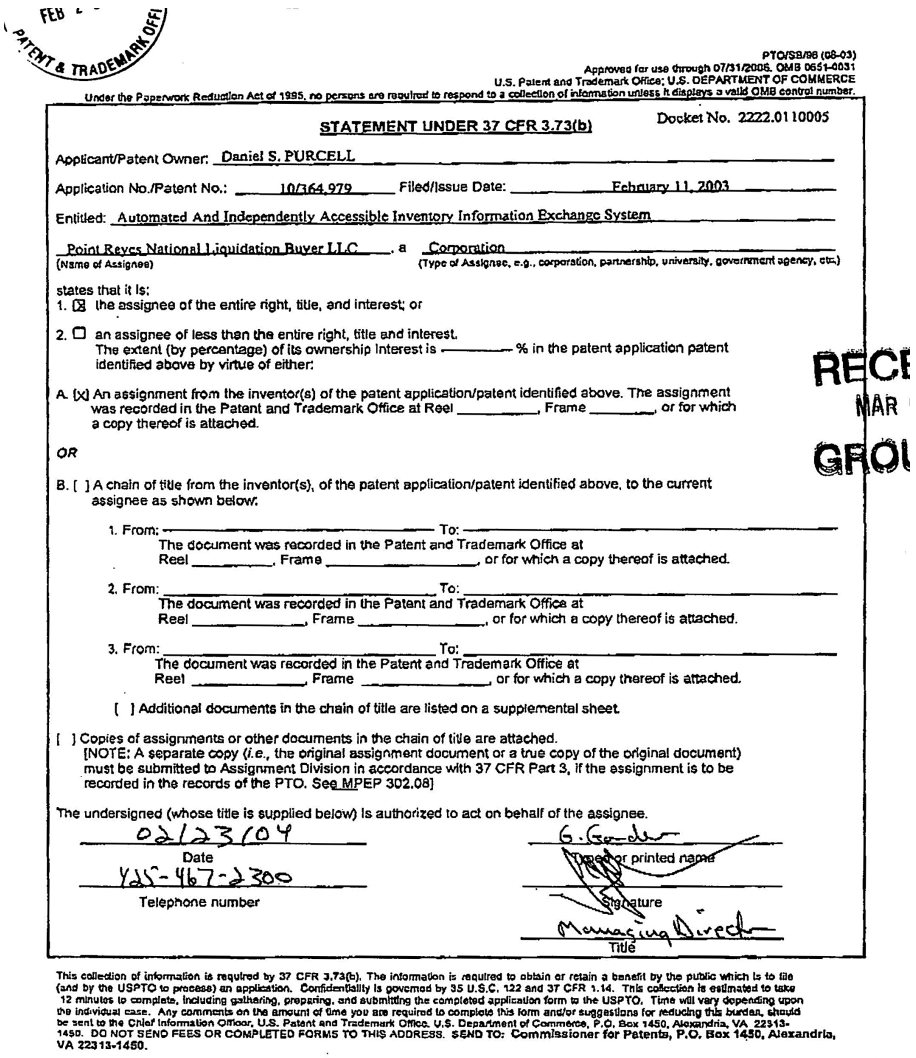
WSBA Lawyer Profile

Member Name	Gregory Gorder	**WSBA Bar #**	15288
Law Firm	Intellectual Ventures	**Admit Date**	11/4/1985
Address	1756 114th Ave SE Ste 110 Bellevue, WA 98004-6931	**Status**	Active
		Phone	(425) 467-2310
		Fax	(425) 467-2350
		Email	

Only active members of the Washington State Bar Association, and others as authorized by law, may practice law in Washington.

The discipline search function may or may not reveal all disciplinary action relating to a lawyer. The discipline information accessed is a summary and not the official decision in the case. For more complete information, call 206-727-8207 and press 7.

¶19 Gorder also signed the power of attorney document for the Point Reyes National Liquidator LLC.[20] On this document, he used Intellectual Ventures' main phone number.



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STATEMENT UNDER 37 CFR 3.73(b)

Docket No. 2222.0110005

Applicant/Patent Owner: Daniel S. PURCELL

Application No./Patent No.: 10/364,979 Filed/Issue Date: February 11, 2003

Entitled: Automated And Independently Accessible Inventory Information Exchange System

Point Reyes National Liquidation Buyer LLC, a Corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:
1. ☒ the assignee of the entire right, title, and interest; or

2. ☐ an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____ % in the patent application patent identified above by virtue of either:

A. [x] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[ ] Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

02/23/04
Date

425-467-2300
Telephone number

G. Gorder
Typed or printed name

Signature

Managing Director
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

D. Two Shell Companies—Ben Franklin and Northstar Acquisitions

¶20 Both Ben Franklin and Northstar Acquisitions are Delaware corporations.[21] Both companies were registered as foreign corporations in Nevada on Oct. 1, 2004.[22] The registered address for both companies in Delaware is 2711 Centerville Road Suite 400, Wilmington, DE 19808. The registered address for both companies in Nevada is 2215-B Renaissance Drive, Suite 5, Las Vegas, NV 89119.

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[20] Power of Attorney for US Patent Application 10/364,979, filed Feb. 23, 2004, and signed by Greg Gorder; document available via USPTO PAIR database at http://portal.uspto.gov/external/portal/pair.

[21] Ben Franklin was formed in Delaware on April 22, 2003 and Northstar Acquisition was formed on March 27, 2003, according to the Delaware Secretary of State; available at https://delecorp.delaware.gov/tin/GINameSearch.jsp, enter "Ben Franklin Patent Holding" for the first search and "Northstar Acquisition" for the second search.

[22] *See*, the Nevada Secretary of State's business entity website, available at https://delecorp.delaware.gov/tin/controller, for the first search, enter "Ben Franklin Patent Holding" in the "entity name" field and for the second search, enter "Northstar Acquisitions" in the "entity name" field.

Both companies have also used addresses in Los Altos, California, including the same address in Los Altos, which Intellectual Ventures co-founder Peter Detkin gave to the California Bar Association, the New York Bar Association, and the US Patent & Trademark Office.[23]

¶21 Ben Franklin and Northstar share similarities in patent prosecution. Documents filed in at least one pending application owned by Ben Franklin identify Peter Detkin, an Intellectual Ventures co-founder, as the managing director of Ben Franklin. Other documents filed with the US Patent & Trademark Office for Ben Franklin have been signed by attorney Julia Ceffalo. Washington State Bar Association records indicate that Ms. Ceffalo is an attorney working for the Invention Law Group, PLLC, which seems to be an Intellectual Ventures-created law firm.[24] As shown below, we have found powers of attorney signed by Ms. Ceffalo for both Ben Franklin and Northstar Acquisitions, linking Northstar Acquisition to Ben Franklin and thus to Intellectual Ventures itself. [25] We have repeated this process with thousands of suspected Intellectual Ventures shell companies.

¶22 Ben Franklin obtained a portfolio of 24 patents and 12 published applications from Intellectual Ventures Patent Holding I, LLC in a transaction which recognized that Intellectual Ventures Patent Holding I's name had been changed to Ben Franklin. Intellectual Ventures Patent Holding I obtained these patents from General Magic, Inc., a company that developed a pioneering PDA-like device in the early 1990s but closed its doors in 2002.[26] Intellectual Ventures Patent Holding executed its agreement with General Magic, which was in voluntary bankruptcy, on April 22, 2003.[27] This agreement was recorded in the US Patent and Trademark Office on July 25, 2003.[28]

¶23 The documents filed with the USPTO on Ben Franklin's behalf bear the signatures of Intellectual Ventures co-founders Peter Detkin and Greg Gorder. The documents also link Intellectual Ventures with a Los Altos address that is also found in at least 70 other patent files associated with some of the early Intellectual Ventures shell companies.

¶24 As shown below, Gorder signed the original agreement with General Magic to obtain the patents that eventually became Ben Franklin's portfolio[29]:

---

[23] We learned from Peter Detkin shortly after publication of our first edition that this address was his residential address, and while this address has been available on three public websites, we subsequently removed the address at Mr. Detkin's request.

[24] However, Intellectual Ventures' own automated telephone directory has indicated that Ms. Ceffalo is an Intellectual Ventures employee, based on a call placed to Intellectual Ventures on June 15, 2007.

[25] We have found Ms. Ceffalo's name on power of attorney documents filed with the USPTO for 139 different Intellectual Ventures shell companies.

[26] *See, e.g.*, Wikipedia, "General Magic," available at: http://en.wikipedia.org/wiki/General_Magic.

[27] *See*, file history for US Patent Application 09/712,712, now US Patent No. 6,839,733, "Power of Attorney" filed on April 28, 2004, pages 7-12 which provide the "Asset Purchase Agreement" (see "recitals"), file history available at http://portal.uspto.gov/external/portal/pair.

[28] USPTO Assignment Database, Reel/frame "014313/0813", available at http://assignments.uspto.gov/assignments/q?db=pat&reel=014313&frame=0813.

[29] *See*, file history for US Patent Application 09/712,712, now US Patent No. 6,839,733, "Power of Attorney" filed on April 28, 2004, page 8, file history available at http://portal.uspto.gov/external/portal/pair.

EXECUTION COPY

IN WITNESS WHEREOF, Seller and Purchaser have caused this Agreement to be signed by their respective officers thereunto duly authorized, all as of the date first written above.

INTELLECTUAL VENTURES PATENT HOLDING I, L.L.C.; a Delaware limited liability company
By: Intellectual Ventures Management, L.L.C., its sole manager

By: _____
Name: Gregory Gorder
Title: Managing Director

GENERAL MAGIC, INC., a Delaware corporation

By: _____
Name: Mary E. Doyle
Title: Responsible Individual

¶25 Even though one can find an assignment of the patents from Intellectual Ventures Patent Holding I to Ben Franklin in the USPTO's assignment database, the two companies are actually the same company[30]. In Nov. 2003, Gorder filed this amendment with the Delaware Division of Corporations changing the Intellectual Ventures Patent Holding's name to Ben Franklin:[31]

[30] The USPTO database describes the transaction as a "change of name."

[31] *See*, file history for US Patent Application 09/934,121, "Oath or Declaration" filed on May 20, 2004, page 8, file history available at http://portal.uspto.gov/external/portal/pair. (This document also exposes a management shell company called Acquisition Management LLC since Gorder signed as an officer of this company.)

State of Delaware
Secretary of State
Division of Corporations
Delivered 11:29 AM 11/24/2003
FILED 10:41 AM 11/24/2003
SRV 030759952 - 3649814 FILE

CERTIFICATE OF AMENDMENT

OF

INTELLECTUAL VENTURES PATENT HOLDING I, L.L.C.

The undersigned, being duly authorized to execute and file this Certificate of Amendment, does hereby certify as follows:

1. The name of the limited liability company is Intellectual Ventures Patent Holding I, L.L.C.

2. Paragraph 1 of the Certificate of Formation is amended in its entirety to read as follow:

"1. *Name.* The name of the limited liability company is Ben Franklin Patent Holding LLC."

IN WITNESS WHEREOF, the undersigned has duly executed this Certificate of Amendment on the 18th day of November, 2003.

Acquisition Management LLC, Manager

By: _____
Gregory Gorder, Managing Director

¶26 Interestingly, both Gorder and Detkin have served as "managing directors" of Ben Franklin in a two-month time period, according to power of attorney documents filed in Intellectual Ventures cases. The oldest document shows Detkin[32] as managing director and the newer document shows Gorder as managing director[33]:

[32] *See*, file history for US Patent Application 09/712,712, now US Patent No. 6,839,733, "Power of Attorney" filed on April 28, 2004, page 2, file history available at http://portal.uspto.gov/external/portal/pair.

[33] *Supra* note 29 at "Power of Attorney" filed on May 20, 2004.

Registration No. 37,575; Judith U. Kim, Esq., Registration No. 40,679; Timothy J. Shea, Jr., Esq., Registration No. 41,306; Patrick E. Garrett, Esq., Registration No. 39,987; with full power of substitution, association, and revocation, to prosecute said application and to transact all business in the United States Patent and Trademark Office connected therewith.

For the purpose of PAIR, the Customer Number is 26111.

The undersigned hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send all correspondence to:

Customer Number 26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934.

Direct telephone calls to (202) 371-2600.

FOR: BEN FRANKLIN PATENT HOLDING LLC

SIGNATURE: _____

BY: GREGORY GORDER

TITLE: MANAGING DIRECTOR

DATE: 11 MAY 2004

33,876; Robert C. Millonig, Esq., Registration No. 34,395; Michael V. Messinger, Esq., Registration No. 37,575; Judith U. Kim, Esq., Registration No. 40,679; Timothy J. Shea, Jr., Esq., Registration No. 41,306; Patrick E. Garrett, Esq., Registration No. 39,987; with full power of substitution, association, and revocation, to prosecute said application and to transact all business in the United States Patent and Trademark Office connected therewith.

For the purpose of PAIR, the Customer Number is **26111.**

The undersigned hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send all correspondence to:

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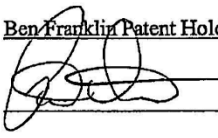
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934.

Direct telephone calls to (202) 371-2600.

FOR: Ben Franklin Patent Holding L.L.C.

SIGNATURE: 

BY: PETER DETKIN

TITLE: MANAGING DIRECTOR

DATE: 26 APRIL 2004

¶27 More importantly, an even-later-filed power of attorney document by Intellectual Ventures' attorney Julia Ceffalo associates the 171 Main Street, Los Altos address with Ben Franklin, and thus with Intellectual Ventures itself. As noted above, this address is found in at least 70 other USPTO case files for the shell companies discussed in this report.[34]

[34] *See*, patent file history for US Application 11/314,002, now US Patent 7,266,499, power of attorney filed on Feb. 16, 2006, available at http://portal.uspto.gov/external/portal/pair in the "image file wrapper" tab under "power of attorney" for "02-16-2006."

PTO/SB/80 (12-03)
Approved for use through 11/30/2005, OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby appoint:

[X] Practitioners associated with the Customer Number: 26111

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Assignee Name and Address:

Ben Franklin Patent Holding LLC
171 Main Street, #271
Los Altos, CA 94022

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Name	JULIA HEANEY		
Signature		Date	29 JULY 2004
Title	AUTHORIZED PERSON	Telephone	

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

¶28 The earliest Intellectual Ventures transaction that we have found occurred on Feb. 18, 2001 between Purple Techno Solutions LLC and Venturemakers LLC of Campbell, Calif.[35] Interestingly, Purple Techno Solutions did not become incorporated until Dec. 9, 2003.[36] The Venturemakers' transaction was not recorded with the USPTO until August 18, 2005, well after Purple Techno Solutions had been formed as a company. A power of attorney for Purple Techno Solutions from 2005 is provided below, which also links this company to the Los Altos address.

[35] *See*, USPTO Assignment Database for US Patent "6285986", available at http://assignments.uspto.gov/assignments/q?db=pat&pat=6285986.

[36] *See*, Delaware Secretary of State business entity search available at https://delecorp.delaware.gov/tin/GINameSearch.jsp.

Pursuant to 37 C.F.R. §3.71, the assignee hereby states that prosecution of the above-referenced patent application is to be conducted to the exclusion of the inventor(s).

Send all future correspondence to: Jeffrey C. Hood
Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C.
P.O. Box 398
Austin, Texas 78767-0398
(512) 853-8800

Assignee of Interest: Purple Techno Solutions LLC
171 Main St #271
Los Altos CA 94022

Dated: 16 MAY 2005 By: Julia Ceffalo
Title: AUTHORIZED PERSON

Washington State Bar Association Sunday, June 03, 2007

Public Member Sponsor Help

WSBA Lawyer Profile

Member Name	Julia R Ceffalo	WSBA Bar #	30460
Law Firm	Invention Law Group PLLC	Admit Date	11/14/2000
Address	677 120th Ave NE Ste 2A-248 Bellevue, WA 98005-3045	Status	Active
		Phone	(425) 467-2270
		Fax	(425) 679-0570
		Email	

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¶29 As noted above, Julia Ceffalo[37] has also signed at least 139 power of attorney documents in Intellectual Ventures-related cases, including the authorization for Northstar Acquisition's pending patent applications.[38] To our knowledge, Northstar Acquisitions had not been previously identified as an Intellectual Ventures shell prior to the first edition of our report. Ben Franklin and Northstar Acquisitions are Delaware corporations and both companies have the same registered addresses in Delaware and Nevada. Interestingly, both companies have also used addresses in Los Altos, California -- including the address in Los Altos, which Intellectual Ventures co-founder Peter Detkin gave to the California Bar Association, the New York Bar Association, and the US Patent & Trademark Office.[39]

[37] Washington State Bar Association records for Julia Ceffalo first accessed on June 3, 2007 and most recently accessed on Nov. 30, 2007, record available at http://www.mywsba.org/default.aspx?tabid=178&RedirectTabId=177&Usr_ID=30460.

[38] *See*, prosecution file history for US Application 09/750,592, now US Patent 7,433,683, power of attorney filed on Sept. 7, 2004, available at http://portal.uspto.gov/external/portal/pair under "Image File Wrapper.

[39] *See*, Northstar assignment records at reel/frame 018222/0226, available at the USPTO assignment database at http://assignments.uspto.gov/assignments/q?db=pat&reel=018222&frame=0226, and see California Bar Association record for

¶30 Northstar Acquisitions obtained a portfolio of 17 patents and 3 published applications from Pentech Financial Services, Inc. on July 22, 2003, the agreement for which was recorded on Sept. 12, 2003.[40] Pentech obtained the patents from Mobility Network Systems, Inc. The portfolio appears to largely comprise the former assets of mDiversity, Inc., although some of the patents originated with SC-Wireless, Inc., SC-Wireless, Ltd., and Cellular Telecom, Ltd., and Hitachi Metals, Ltd.

Peter Detkin, available at http://members.calbar.ca.gov/fal/Member/Detail/134799, originally accessed on June 3, 2007 and most recently accessed on Nov. 30, 2007, records are the same albeit a slight change in telephone number. As noted, we learned from Peter Detkin shortly after publication of our first edition that this address was his residential address, and while this address is available on three public websites, we have obscured the address at Mr. Detkin's request.

[40] *See*, USPTO Assignment Records for US Patent "5751516," available at http://assignments.uspto.gov/assignments/q?db=pat&pat=5751516.

PTO/SB/82 (09-03)
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REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	09/750,592
Filing Date	December 28, 2000
First Named Inventor	Bhupal Kanaiyala Dharia
Art Unit	2631
Examiner Name	Not yet assigned
Attorney Docket Number	012.P2012

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☑ I hereby appoint the practitioners associated with the Customer Number: 00043813

☑ Please change the correspondence address for the above-identified application to:

☑ The address associated with Customer Number: 00043813

OR

☐ Firm *or* Individual Name					
Address					
Address					
City		State		Zip	
Country					
Telephone		Fax			

I am the:

☐ Applicant/Inventor.

☑ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Name	Julia Ceffalo, Authorized Person, Northstar Acquisitions LLC		
Signature			
Date	06/Aug/2004	Telephone	

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.