

PATENT PORTFOLIOS AS SECURITIES

MICHAEL RISCH†

ABSTRACT

Companies of all types are buying, selling, and licensing patents—not just individual patents, but many patents bundled into large portfolios. A primary problem with these transactions is that the market is illiquid: parties cannot identify holders of relevant portfolios, they cannot agree on the value of portfolios, and the specter of litigation taints every negotiation.

This Article presents a new way to improve market formation and integrity by proposing that patent portfolios be treated as securities. If patent-portfolio transactions are treated like stock transactions, sellers steering clear of fraud laws may be forced to disclose information about patent value. Furthermore, patent transactions previously consummated in “dark markets” might now be traded in public clearinghouses. Ultimately, parties that openly transact will develop objective pricing methodologies that reduce the costs of negotiation and decrease the leverage that portfolio holders exert on potential licensees.

TABLE OF CONTENTS

Introduction	90
I. Nonpracticing Entities, Product Companies, and Patent Aggregation.....	96
A. Nonpracticing Entities and Invention.....	97
B. Product-Company Patent Aggregation	99
II. Patents and Portfolios as Securities	102

Copyright © 2013 Michael Risch.

† Professor of Law, Villanova University School of Law. The author thanks Amanda Freechack, Greg Gorder, Azam Khan, Ian McClure, Jennifer O’Hare, Sean O’Connor, Poonam Puri, Mark Schankerman, Urska Velikonja, Kish Vinayagamoorthy, and participants of the OECD Expert Workshop on Patent Practice and Innovation, Law & Society Annual Meeting Entrepreneurship Track, Villanova Law School Junior Faculty Workshop, Article One Partners Napa Valley Summit, Intellectual Ventures University speaker series, Cleveland IP Law Association, Cleveland-Marshall Law School, Gonzaga Law School and Idaho Law School presentations for their helpful comments and feedback. Brett Hertel, Cailyn Reilly, Megan Wood, and Denis Yanishevskiy provided valuable research assistance and RPX Corporation provided data related to patent assertions.

A.	Patents vs. Portfolios.....	102
B.	A Need for Securities Regulation	106
C.	Securities and the <i>Howey</i> Test.....	107
1.	<i>Investment of Money with the Expectation of Profit</i>	109
2.	<i>Common Enterprise</i>	113
3.	<i>From the Efforts of Others</i>	115
D.	Licenses and Risk Capital	119
III.	Implications of Patent-Portfolio Securities.....	121
A.	Market Integrity	122
1.	<i>Public and Exempt Offerings</i>	122
2.	<i>Fraud</i>	130
3.	<i>Insider Trading</i>	131
B.	Market Making.....	132
1.	<i>Exchanges</i>	132
2.	<i>Dark Pools and Clearinghouses</i>	133
3.	<i>Security Pricing</i>	137
4.	<i>Prospects</i>	152
	Conclusion.....	153

INTRODUCTION

Patents are the new securities. They are bought and sold with frequency.¹ Their resale value is often derived from an expected stream of revenue.² In short, they are valuable assets that can appreciate, depreciate, and result in gains and losses upon sale. As such, they should be tradable on a market like securities. This Article suggests one way to improve market formation for patents: by treating patent portfolios like securities. Despite the recognition that patent markets are important³ and that portfolios are important,⁴ this

1. See Anne Kelley, *Practicing in the Patent Marketplace*, 78 U. CHI. L. REV. 115, 117 (2011); Nicholas Figueroa & Carlos J. Serrano, Patent Trading Flows of Small and Large Firms 25–27 (Apr. 15, 2013) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2251084.

2. 14 WILLIAM MEADE FLETCHER, FLETCHER CYCLOPEDIA OF THE LAW OF CORPORATIONS § 6833 (rev. vol. 2012).

3. See Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1740 (2000) (“It is clear that the ability of the owners of intellectual property rights to transfer these rights in whole or in part to others is an important feature of the systems. The rights can easily arise in the hands of persons or firms who are not in the best position to exploit them. In order to involve others in the full exploitation of the economic potential of the right, the owners must be able to enter into a wide range of arrangements with other firms.”); Aleksandar Nikolic, *Securitization of Patents and Its Continued Viability in Light of the Current Economic Conditions*, 19 ALB. L.J. SCI. & TECH. 393,

Article is the first to study the implications of treating patent portfolios as securities *per se*. Given the reality of patent aggregation, we should consider securities laws as a way to make current markets better.

This is not to say that patents have never been associated with securities. Indeed, some speculators have packaged patents into bundled portfolios that are then sold in pieces to investors, which is a traditional way that patents, mortgages, or any other asset classes are “securitized.”⁵ Investors are then paid their portion of any licensing or litigation profits associated with the bundle. But patent portfolios that have not been packaged into a traditional security have escaped regulatory scrutiny, despite having many similar features. Like traditional securitization, portfolios are bought and sold, and the owner of the portfolio obtains profits. This Article examines how patent portfolios might be treated as securities even when ownership of the portfolio is not divided among many investors.

Individual patents differ from company stock, the most traditional security, in important ways. Unlike stock, patents are not necessarily representative of the profits generated by an underlying business. Instead, patents generate revenue directly when sold or licensed, thus providing only a piece of a patent-holder’s profits. Further, the value of any particular patent will be both disputed and volatile.⁶ Parties to a transaction often disagree about whether a

409 (2009) (“Another factor that could lead to increased patent securitization is the creation of regulated markets for intellectual property, providing information and access to trading.”). See generally Naomi Lamoreaux and Kenneth Sokoloff, *Long-Term Change in the Organization of Inventive Activity*, 93 PROC. NAT’L ACAD. SCI. 12, 686 (1996) (describing the growth of patent markets in the nineteenth century); Mark A. Lemley & Nathan Myhrvold, *How To Make a Patent Market*, 36 HOFSTRA L. REV. 257 (2007) (discussing the importance of information about patent prices to the creation of a well-functioning market).

4. See generally Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1 (2005) (outlining a theory of patent value in which the worth of a patent portfolio is greater than the sum of its individual parts).

5. See, e.g., Nikolic, *supra* note 3, at 404 (discussing traditional patent securitization); Jeff Leung, *Patent Securitizations, Patently Bad Idea – Risk/Benefit Approach Reveals Possible Reasons for Lack of Patent Securitizations*, IPL NEWSL. (Am. Bar. Ass’n Section of Intellectual Prop. Law), Fall 2006, at 4, 4–5 (discussing portfolio requirements for traditional securitization). See generally Mario Calderini & Cristina Odasso, *Intellectual Property Portfolio Securitization: An Evidence Based Analysis* (unpublished manuscript) (discussing potential markets for traditional securitization), available at <http://www2.druid.dk/conferences/viewpaper.php?id=5618&cf=32>.

6. Indeed, accounting rules do not allow employee-invented patents to be booked as assets because there is no purchase price associated with them. Malcolm T. Meeks & Charles A. Elderling, *Patent Valuation: Aren't We Forgetting Something? Making the Case for Claims*

patent is valid and/or infringed;⁷ if either proves untrue, the patent loses its value.⁸ Furthermore, patentees might interpret any party seeking a license for its product as an admission of infringement, thus tainting prices.⁹ As a result, each patent—indeed, each patent transaction—has a different value negotiated secretly.¹⁰ This means that the low volume of trading and related lack of price information is insufficient to set a market price. These features seem far removed from stock. If patents are the new securities, they are highly illiquid securities.

Patent portfolios—aggregated groups of patents—are different;¹¹ they exhibit many similarities with traditional securities. As with any volatile asset, diversifying many patents into a portfolio deemphasizes

Analysis in Patent Valuation by Proposing a Patent Valuation Method and a Patent-Specific Discount Rate Using the CAPM, 9 NW. J. TECH. & INTELL. PROP. 194, 195 (2010); cf. Zvi Griliches, Bronwyn H. Hall & Ariel Pakes, *R&D, Patents, and Market Value Revisited: Is There a Second (Technological Opportunity) Factor?* 26 (Nat'l Bureau of Econ. Research, Working Paper No. 2624, 1988) (finding a \$3.2 million standard deviation in patent value).

7. Amy L. Landers, *Patent Valuation Theory and the Economics of Improvement*, 88 TEX. L. REV. 163, 166 (2010) (“Additional contingencies complicate patent valuation for licensing discussions, including claim scope, validity, and enforceability.”); Meeks & Eldering, *supra* note 6, at 198 (“As a result, licensing negotiations essentially become ‘mini’ patent trials . . .”).

8. See John F. Duffy, *Rules and Standards on the Forefront of Patentability*, 51 WM. & MARY L. REV. 609, 611–13 (2009) (discussing the comparative merits of rules that apply generally to standards that are applied to individual patents); Kelly Casey Mullally, *Legal (Un)certainty, Legal Process, and Patent Law*, 43 LOY. L.A. L. REV. 1109, 1125–34 (2010) (describing pressure for rules from the U.S. Patent and Trade Office and pressure for standards from the Supreme Court); John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771, 799–800 (2003) (arguing that standards applied to each patent are better for patent policy than formal rules).

9. See F. Russell Denton & Paul J. Heald, *Random Walks, Non-Cooperative Games, and the Complex Mathematics of Patent Pricing*, 55 RUTGERS L. REV. 1175, 1177 (2003) (“Unfortunately, patent pricing presents a difficulty not present in most stock option deals because merely inquiring about acquiring a license will affect its price.”). Like Schrödinger’s cat, a patent is both worthless and priceless until investigated.

10. Michael S. Kramer, *Valuation and Assessment of Patents and Patent Portfolios Through Analytical Techniques*, 6 J. MARSHALL REV. INTELL. PROP. L. 463, 465 (2007) (“In light of the prerequisites to achieve patent protection, the value of a patent, by definition, must be unique.”).

11. Gideon Parchomovsky and R. Polk Wagner have argued that portfolios are valuable even if individual patents are not. See Parchomovsky & Wagner, *supra* note 4, at 52 (“The whole is greater than the sum of its parts: the benefits of patent portfolios in the modern innovation environment are, we suggest, so substantial as to explain the heretofore largely unexplained ‘value gap’ at the heart of the patent paradox.”). *But see* Alexander I. Poltorak, *Valuing Individual Patents Comprising a Portfolio*, PAT. STRATEGY & MGMT (Law Journal Newsletters, Phila., Pa.), Oct. 2003 (reprint at 2) (proposing a valuation that assumes the portfolio value must equal the sum of the values of each patent), available at <http://www.generalpatent.com/files/PSM-Oct2003.pdf>.

the highs and lows of any given piece of the pie. Although the value of each patent in the portfolio may vary wildly, the portfolio as a whole will maintain a more stable value than its constituent parts.¹²

Even though a portfolio reduces the ability of any single constituent patent to affect overall value, diversified portfolios are still subject to systemic risk. They face this risk because aggregated patents usually cover similar technology.¹³ Thus, if patents in general or patents relating to the technology in the portfolio become more valuable, then the portfolio will increase in value.¹⁴ If, however, patents as a whole or in a technology area become devalued, then the portfolio will decrease in value. Furthermore, portfolios of specific types of patents, such as those covering a specific product,¹⁵ will rise and fall with court rulings that affect them. But a properly diversified portfolio would include patents covering different types of products in a technology area to mitigate this risk.¹⁶ The risk analysis, however, is similar to that of securities: even diversified securities portfolios might be subject to systemic risk.

Because of these and other similarities, this Article proposes that patent portfolios, but perhaps not individual patents, should be treated like securities to help patent markets behave more like public securities markets. The benefits of securities markets are well-recognized, or at the very least well-idealized. Securities markets are transparent: everyone knows the price. They are open: anyone with enough money may purchase stock. They are somewhat efficient and

12. Cf. Jiaqing “Jack” Lu, *Decompose and Adjust Patent Sales Prices for Patent Portfolio Valuation*, LICENSING ECON. REV., Mar. 2013, at 71, 75 (finding that portfolio value grows nonlinearly with portfolio size), available at http://www.lesk.org/include/downfile.asp?folder=board&filename=11_LU5Edit.pdf.

13. See Parchomovsky & Wagner, *supra* note 4, at 29–30 (“In the patent portfolio theory, relatedness is an important feature: unlike corporate stock portfolios, for example, where broad diversification is a typical goal, patent portfolios are more narrowly focused within a technological field.”).

14. See *id.* at 39–40 (arguing that portfolios reduce risk associated with uncertainty in law). Parchomovsky and Wagner assume that legal changes will affect different types of patents differently, rather than all patents for each change. Presumably, some changes will affect every patent as well.

15. See, e.g., *id.* at 30 (describing specific portfolios targeted at a particular product, process, or problem).

16. See Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, J. ECON. PERSP., Spring 2005, at 75, 81 (arguing that patentees file related continuation applications to hedge their bets that an original application becomes valueless); Parchomovsky & Wagner, *supra* note 4, at 30 (“[W]hile patent portfolios consist of related patents, this is not to say they are not diverse in any respect. Indeed, it is the ability to leverage the differences among collected patents that makes patent portfolios a powerful tool in the modern, innovation-driven marketplace.”).

transparent: anyone offering to buy or sell can complete a transaction, with the stock going to parties willing to pay the agreed price. There are exceptions, of course, but stock markets are generally well-behaved.¹⁷

In contrast, patent markets are opaque: no one knows the price, who owns the patents, or even whether a relevant patent exists.¹⁸ They are illiquid and shallow: only those with patents may sell,¹⁹ and only those with potentially infringing products will acquire licenses.²⁰ They are inefficient: parties cannot agree on prices, and injunction risks might inflate prices.²¹ Patent markets are not well-behaved.

Despite these shortcomings, patent portfolios behave more like securities than individual patents. Many types of companies trade them, and they could be considered securities under the law. Importantly, securities treatment will reach patent sale and licensing transactions that patent law is ill-equipped to handle.

Treating patent portfolios as securities would improve market integrity with respect to particularly abusive mass demand-letter campaigns by treating such campaigns as public offerings. Further, ordinary transactions, even if exempt from registration requirements, would be subject to heightened disclosure requirements. With respect to forming better patent markets, a primary benefit would be to emphasize the importance of disclosure and market clearinghouses for patent-portfolio licensing. This, of course, has always been possible, but treating portfolios like securities may help create a functioning patent-portfolio license, sale market, and culture of more efficient pricing.

17. To be sure, nonpublic markets are less liquid and efficient, but even illiquid transactions with multiple parties will apply the same price to all buyers, and that price is often used for later negotiations.

18. Dietmar Harhoff, *The Role of Patents and Licenses in Securing External Finance for Innovation*, 14 EURO. INVEST. BANK PAPERS, no. 2, 2009, at 74, 83 (2009), available at http://www.eib.org/attachments/efs/eibpapers/eibpapers_2009_v14_n02_en.pdf; Lemley & Myrsvold, *supra* note 3, at 257.

19. Presumably, of course, one could short sell a patent with the hopes of obtaining it later. Because patents are unique and illiquid, however, such short sales would be extremely risky.

20. Here, too, there are many types of securities (maybe even most) that are also shallow and illiquid.

21. See RPX Corp., Investor Presentation 8 (June 2013), available at http://files.shareholder.com/downloads/ABEA-5XYKB4/0x0x523306/4CC42999-6166-4C95-8192-9CE54759BE8D/RPXQ3Invest_Web.pdf (describing the risks of litigation as they affect the valuation of patent portfolios).

This proposal sidesteps the normative question of whether such a market would be socially beneficial and thus should exist at all. Some might argue that a market for the right to exclude others harms innovation,²² and thus ought to be discouraged. Others see some benefit in a market for invention,²³ and might argue that this particular type of market should be encouraged. These are important questions to be studied, but they concern how the system should be rather than how it currently operates. This Article presumes that, for political or economic reasons, current practices will continue, and that securities law is a way forward. This Article presents its proposal in three parts.

Part I discusses how companies aggregate patents into large portfolios. According to conventional wisdom, such aggregation has traditionally been pursued by companies that do not sell any products or services themselves, so-called nonpracticing entities (NPEs).²⁴ Though many criticize NPEs, recent scholarship and patent aggregation activities by product and service companies imply that portfolio aggregation is no longer just about NPEs, if it ever was.

Part II explores the properties of patent portfolios, showing how they fit the definition of securities. To the extent that patent sales and licenses are contracts that provide speculative value, they may fit the definition of “investment contract” and thus constitute a security.²⁵

Part III suggests some legal and practical implications of treating portfolios as securities. First, if patent portfolios are securities, then they will be subject to a new regulatory framework that improves market integrity. They may not be sold to the public without registration, they will be subject to disclosure rules, and they will face heightened fraud prohibitions. Second, securities regulation may

22. See Colleen Chien, *Startups and Patent Trolls* 14–15 (Santa Clara Univ. Legal Studies Research Paper No. 09-12, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2146251 (describing the harms associated with assertion of patents against small companies).

23. See, e.g., Oskar Liivak, *Establishing an Island of Patent Sanity*, 78 BROOKLYN L. REV. (forthcoming 2013) (manuscript at 4–7) (describing the benefits of a market for invention), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2205996.

24. Commentators dispute what constitutes an NPE. See, e.g., Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 630 (2008); Michael Risch, *What is a Patent Troll?*, PRAWFSBLAWG (Apr. 15, 2011), <http://prawfsblawg.blogs.com/prawfsblawg/2011/04/what-is-a-patent-troll.html>.

25. See Securities Act of 1933 § 2(a)(1) 15 U.S.C. § 77b(a)(1) (2012) (including “investment contract” in the definition of “security”); Securities Exchange Act of 1934 § 3(a)(10), 15 U.S.C. § 78c(a)(10) (2012) (same). For further discussion of patent portfolios as investment-contract securities, see *infra* Part II.C.

encourage the formation of transparent market clearinghouses and development of methods for determining pricing, both of which are critical to an efficient market function.

I. NONPRACTICING ENTITIES, PRODUCT COMPANIES, AND PATENT AGGREGATION

Patents do not confer the right to practice the claimed invention. Instead, they only provide the right to exclude, giving the owner of the patent the ability to seek damages and/or injunctions against others who practice the patent.²⁶ Thus, when two competitors own patents, it gives neither the freedom to operate, but both the right to cross-sue each other for infringement on the products they make. This leads to a sort of *détente* in which competitors will either leave one another alone or cross-license their patents. These product- and service-providing companies are often synonymously called practicing entities or productive companies.

Patents are also alienable: they may be bought or sold at will. The lure of profits has led to the rise of patent aggregators who purchase patents and enforce them against others who infringe the acquired patents. These aggregators, called NPEs, patent assertion entities (PAEs), or, more pejoratively, patent trolls, buy patents and assert them against others as their primary source of revenue.

As the number of NPEs has grown, so has the number of their critics. The conventional wisdom is that NPEs block innovation by forcing productive companies to pay for a patent license without adding any value to society themselves.²⁷ A core problem, some people argue, is that NPEs have no fear of being cross-sued for infringement, and thus are unwilling to settle on reasonable terms—there is no *détente*. But the conventional wisdom is incomplete. Patent aggregation is not limited to NPEs anymore, if it ever was.

26. 35 U.S.C. § 271(a) (2006).

27. See James Bessen & Michael J. Meurer, *The Direct Costs of NPE Disputes*, 99 CORNELL L. REV. (forthcoming 2014) (manuscript at 21–22), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2091210 (“Effectively, what defendants pay in costs as a result of NPE litigation reduces their own R&D budgets. This is because companies become targets for litigation mainly when they introduce innovative products. Hence R&D managers must anticipate NPE costs as part of the cost of innovating.”). Of course, this statement takes no account of the huge profits these companies earn and refuse to spend on R&D or even return to shareholders. See Jeff Macke, *Einhorn Sues Apple! Will His Battle Save the Stock?* YAHOO! FIN. BREAKOUT (Feb. 7, 2013), <http://finance.yahoo.com/blogs/breakout/einhorn-sues-apple-battle-save-stock-160610124.html>.

A. *Nonpracticing Entities and Invention*

Though NPEs do not make products, they bear more similarities to practicing inventors than many previously thought. First, aggregation by NPEs is not particularly new; some of the most litigious NPEs have been active for twenty-five years or more.²⁸ Furthermore, some of the most famous patentees in history, like Thomas Edison, did not make products for all of the patents they enforced.²⁹ Even IBM today does not make products relating to many of its patents.³⁰ In short, the long history of U.S. invention has been one of patent acquisition and enforcement, with and without accompanying products.

Second, NPEs obtain their patents from product and service companies. A recent study of litigious NPEs showed that patents asserted by NPEs came from corporations, more than 40 percent of which were classified by the U.S. Patent and Trademark Office as having more than five hundred employees.³¹ Thus, even though NPE-owned patents are not currently practiced by NPEs, they came from research and development efforts prior to sale, much like patents of practicing companies.

Third, NPEs do not appear to have any special impact on venture capital investment. In theory, any investment decision should depend on downstream liquidation or recapitalization opportunities should the company fail. In practice, studies show that startups do not seem to consider sale to NPEs as part of the exit plan.³² The rise of NPE activity may change this in the future, but it implies that patents

28. Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 474–75 (2012); see also Lamoreaux & Sokoloff, *supra* note 3, at 12,690–91.

29. Henry R. Nothhaft & David Kline, *Was Thomas Edison a Patent Troll?*, IPWATCHDOG (June 1, 2010, 6:03 PM), <http://www.ipwatchdog.com/2010/06/01/was-thomas-edison-a-patent-troll/id=10829> (describing several inventors that relied on licensing business models).

30. See *infra* notes 43–47 and accompanying text.

31. Risch, *supra* note 28, at 485–86. Of the patents originally obtained by companies, only 21 percent came from businesses dedicated to licensing. *Id.* About 75 percent of the business entities were corporations, and of those, 17.5 percent received venture capital and 20 percent were publicly traded. *Id.*; see also Colleen Chien, *A Race to the Bottom*, INTELL. ASSET MGMT. MAG., Jan./Feb. 2012, at 13 fig. 2 (describing sources of patents).

32. See Stuart J.H. Graham, Robert P. Merges, Pam Samuelson & Ted Sichelman, *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 BERKELEY TECH. L.J. 1255, 1281–83 (2009) (finding that venture capitalists do not closely examine patent quality before investing); Nothhaft & Kline, *supra* note 29, at 492 (“NPEs may have minimal investment-inducing benefits even if they marginally increase the likelihood of investment.”).

issued to startups all start out the same: owned by a productive startup. They do not all end up in the same place, and where they end up is a mix of product and NPE portfolios: some are held until they expire, some are held until the startup becomes large, some are held while the startup remains small, some are sold while the startup is operating, and some are sold when the startup fails.

Fourth, NPEs purchase and enforce many of their patents from individuals. For example, 28 percent of the patents asserted by the most litigious NPEs were originally obtained by individuals, as compared with 14 percent of the patents asserted by individuals in all U.S. litigation.³³ Thus, NPEs take claims that would otherwise be asserted separately and aggregate them into portfolios that may be asserted simultaneously. This is not unlike what product companies do. They too obtain their patents from individuals: their employees. But company patents come preaggregated to the employer. By purchasing patents from individuals and aggregating them, NPEs create portfolios. However, rather than creating patent portfolios by paying salaried employees, they simply buy them directly.

Although nonemployed individual inventors are usually nonpracticing themselves, the United States has long had an ethos of the individual inventor,³⁴ just as it has for product companies. Indeed, one study found that technology patents held by individuals at issuance had a high patent value when compared with those held by many product companies.³⁵ Thus, many people are slower to criticize individuals, even though they make no products.

For those patents in the portfolio that are litigated to judgment, NPE-owned patents do not appear to be significantly lower in quality than other litigated patents. About 28 percent of the judgments completely invalidated NPE-owned patents, whereas 20 percent of *all* judgments completely invalidated a patent.³⁶ This means that NPE

33. See Risch, *supra* note 28, at 495–96; see also 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, 376 (2012) (showing that NPE activity moves inversely with individual litigation filings: when one goes up, the other goes down).

34. See, e.g., Christopher A. Cotropia, *The Individual Inventor Motif in the Age of the Patent Troll*, 12 YALE J.L. & TECH. 52, 54 (2009) (“The garage inventor is as American as apple pie. We enjoy stories of independent inventors, working against all odds to provide society with amazing technological breakthroughs.” (footnote omitted)).

35. Kramer, *supra* note 10, at 485–86.

36. Risch, *supra* note 28, at 482. This comparison is also not completely appropriate. The study of all patents counted orders that denied summary judgment. The NPE study did not count such orders, which means the denominator was smaller, increasing the percentage.

patents are not so much lower in quality that they are somehow different from patents generally. To the extent there is a patent quality problem, it is not limited to NPEs.

Finally, it is likely that NPEs will accept some amount of money to settle a case; licensing is the business model after all.³⁷ Of course, the defendant-licensee may not be happy with the amount, but some settlement amount is usually available. When productive companies sue each other, plaintiffs may be unwilling to settle at any price.³⁸ Instead, they may demand an injunction. As productive companies obtain more patents, the likelihood of an injunction increases.³⁹

Indeed, though many NPE patents are invalid, productive companies have obtained invalid patents as well. Little separates the quality of these patents other than the current owner.

B. Product-Company Patent Aggregation

Individuals have long assigned their patents to companies that aggregate them.⁴⁰ Usually, such patents come from employees who assign inventions to their employers; the same is true for virtually every university.⁴¹ As the number of employees and inventions grow, so grows the number of patents. In fact, large companies have long aggregated many more patents than small companies, although some evidence suggests that large company aggregation includes a higher

37. See, e.g., Public Comment from Barry Leff, IPNav, to Fed. Trade Comm'n Patent Assertion Entity Activities Workshop (Dec. 10, 2012), available at <http://www.ftc.gov/os/comments/pae/pae-0010.pdf> (“When such an operating company seeks sales injunctions against competitors, it is because they want to increase their market share. When a PAE asserts a patent, it’s not looking to stifle competition: it’s looking to get paid for its intellectual property.”). In rare cases when the patent is exclusively licensed, the exclusive licensee might enforce the patent and require an injunction.

38. See Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV., (forthcoming 2013) (manuscript at 46–47), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2269087 (discussing litigation and settlement differences among NPEs and competitors).

39. See Charles Duhigg & Steve Lohr, *The Patent, Used as a Sword*, N.Y. TIMES, Oct. 8, 2012, at A1 (noting that “as patent portfolios have expanded, so have pressures to use them against competitors”); cf. Richard Stallman, *Let’s Limit the Effect of Software Patents, Since We Can’t Eliminate Them*, WIRED (Nov. 1, 2012, 6:30 AM), <http://www.wired.com/opinion/2012/11/richard-stallman-software-patents> (arguing that Apple may be the most dangerous patent holder).

40. See, e.g., Lamoreaux & Sokoloff, *supra* note 3, at 12,690 (conducting a quantitative analysis showing the increase in patent assignments over time).

41. See generally Peter Lee, *Patents and the University*, 63 DUKE L.J. 1, 36–49 (2013) (documenting a shift from “academic exceptionalism” to universities’ embrace of patenting).

proportion of lesser value patents when compared with small companies.⁴²

One famous example is IBM, which has more patents than any other company.⁴³ IBM's patenting activity created two advantages. First, the company is rarely, if ever, sued for patent infringement by its competitors.⁴⁴ The reason is simple: any company that might sue IBM for infringing a patent would face counterclaims for infringing several IBM patents.⁴⁵ The result is either no action or a cross-license agreement between IBM and the other party. Second, IBM has used its portfolio as a source of revenue. One example is its 1993 license of all personal-computer patents to Dell for \$293 million.⁴⁶ IBM has reportedly earned more than \$10 billion in licensing, and some credit the company's intellectual property exploitation with its turnaround in the early 1990s.⁴⁷

More recently, large companies have begun to acquire large portfolios of patents from a variety of sources other than their own employees such as individuals, acquired companies, and other large companies. They have done so for three reasons. First, every patent purchased by a productive company cannot be purchased by an NPE. Thus, aggregation is a defense mechanism to avoid assertions by

42. See DIANA HICKS, CHI RESEARCH, INC., SMALL SERIAL INNOVATORS: THE SMALL FIRM CONTRIBUTION TO TECHNICAL CHANGE 11 (2003), available at <http://archive.sba.gov/advo/research/rs225tot.pdf> (finding that small firms generate a disproportionate number of important patents as measured by citations); John R. Allison & Mark A. Lemley, *Who's Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2128 (2000) (reporting that 70 percent of patents are sought by large firms compared with 11 percent by small firms).

43. Sarah Frier, *IBM Granted Most U.S. Patents for 20th Straight Year*, BLOOMBERG (Jan. 10, 2013, 9:05 AM), <http://www.bloomberg.com/news/2013-01-10/ibm-granted-most-u-s-patents-for-20th-straight-year.html>.

44. See, e.g., Gary L. Reback, *Patently Absurd*, FORBES, June 24, 2002, at 44, 45–46. RPX Corporation Data shows that IBM has been sued by nine operating companies since 2005, and only one since 2009. Email from RPX Corp. to Michael Risch, Professor of Law, Villanova Univ. Sch. of Law (June 3, 2013, 11:46 AM) (on file with the *Duke Law Journal*).

45. See Colleen Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 321–22 (2010) (“In defensive contexts, patents are used to ward off suits, as well as to gain access to technology and to further technological adaptation.”); Parchomovsky & Wagner, *supra* note 4, at 36 (noting the defensive benefits of portfolios).

46. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1328 (2009). Indeed, this license was an amendment to an earlier license that likely contemplated additional royalties. *Id.*

47. See, e.g., Parchomovsky & Wagner, *supra* note 4, at 47–48 (“This led not only to the remarkable growth of the company's patent portfolio, but also to a significantly reduced ratio of research dollars spent to patents earned.”).

others. The value of defensive aggregation is that every patent purchased will not be used against it. Additionally, there is an ongoing economic benefit to any purchaser who might be infringing a patent: the avoided license fees. Of course, the purchase price is simply a prepayment of those potential fees and defense costs.

Second, companies with too few patents to effectively defend themselves from lawsuits filed by competitors have begun aggregating patents to better defend themselves.⁴⁸ There are several recent examples. For example, a consortium including Microsoft, Apple, and Oracle purchased patent portfolios from Novell and Nortel, two former technology leaders, for \$4.5 billion.⁴⁹ In response, Google (which had made its own bid of \$900 million), published a blog post essentially accusing the consortium of behaving like patent trolls.⁵⁰ Google then purchased Motorola Mobility for \$12.5 billion in a deal that most observers agreed was for Motorola's mobile-phone patent portfolio,⁵¹ which has since been asserted against Apple. In another example, Yahoo recently sued Facebook for patent infringement, much to the dismay of Yahoo employees who invented the subject matter of the patents.⁵² In response, Microsoft purchased a large portfolio of patents from America Online (AOL), and sold half of

48. See *id.* at 57 (“By contrast, firms lacking effective patent portfolios will find themselves increasingly unable to reach beneficial accommodations with their more portfolio-rich competitors, and will be forced to the more costly, more prolonged, and higher risk strategy of patent litigation.”); *id.* at 56 (arguing that need for aggregation explains growth in small firm patenting in the 1990s); see also *Recent Patent Assignments*, PATENTLY-O (Apr. 15, 2013), <http://www.patentlyo.com/patent/2013/04/recent-patent-assignments.html>.

49. Elizabeth Woyke, *An Insider on the Nortel Patent Auction and Its Consequences*, FORBES (July 7, 2011, 11:40 AM), <http://www.forbes.com/sites/elizabethwoyke/2011/07/07/an-insider-on-the-nortel-patent-auction-and-its-consequences>.

50. See David Drummond, *When Patents Attack Android*, GOOGLE BLOG (Aug. 4, 2011, 12:25 PM), <http://googleblog.blogspot.com/2011/08/when-patents-attack-android.html> (“They want to make it harder for manufacturers to sell Android devices. Instead of competing by building new features or devices, they are fighting through litigation. This anti-competitive strategy is also escalating the cost of patents way beyond what they're really worth.”).

51. Evelyn M. Rusli & Claire Cain Miller, *Google To Buy Motorola Mobility for \$12.5 Billion*, N.Y. TIMES DEALBOOK (Aug. 15, 2011, 9:16 AM), <http://dealbook.nytimes.com/2011/08/15/google-to-buy-motorola-mobility>.

52. Michael J. de la Merced, *As It Warned, Yahoo Sues Facebook over Patents*, N.Y. TIMES DEALBOOK (Mar. 25, 2012, 4:48 PM), <http://dealbook.nytimes.com/2012/03/12/yahoo-sues-facebook-over-patents>. Software engineers generally do not favor the use of patents to limit other software development. See, e.g., Andy Baio, *A Patent Lie: How Yahoo Weaponized My Work*, WIRED (Mar. 13, 2012, 3:44 PM), <http://www.wired.com/business/2012/03/opinion-baio-yahoo-patent-lie>.

those patents to Facebook to use in defense against Yahoo.⁵³ This purchased aggregation is very similar to home-grown aggregation by companies building portfolios through employees.

Third, and related to the first two points, defense against NPEs and competitors allows a greater freedom to innovate.⁵⁴ In fact, some posit that a large portfolio improves a company's ability to acquire additional innovation in the form of patents and other development.⁵⁵ This also means that the company can enhance its licensing efforts by including acquired patents in a portfolio along with patents developed in-house.

Although scholars might lament a patent system that encourages more and more aggregation, there is no question that the practice has expanded, nor that it was ever limited to NPEs. As such, regulations should apply to all aggregators.

II. PATENTS AND PORTFOLIOS AS SECURITIES

This Part considers whether patents and patent portfolios should be considered securities. The analysis leads to three conclusions: (1) portfolios, rather than individual patents, should be considered for securities treatment; (2) the securities laws would bring regulatory benefits not associated with patent laws, thereby justifying securities treatment; and (3) portfolio transactions could meet the test articulated in *SEC v. W.J. Howey Co.*⁵⁶ (the *Howey* test) for securities, though the argument probably better applies to portfolio licensing.

A. *Patents vs. Portfolios*

This Article focuses on patents aggregated into large portfolios. Whereas the rules should arguably apply to individual patents and

53. *Facebook Buys AOL Patents from Microsoft in \$550m Deal*, BBC (Apr. 23, 2012), <http://www.bbc.co.uk/news/business-17820851>.

54. Parchomovsky & Wagner, *supra* note 4, at 34. For example, Parchomovsky and Wagner discuss the growth of Gemstar, a productive company that at one point acquired TV Guide through the acquisition of patents. *Id.* at 50–51.

55. *See id.* (“Thus, holding a patent portfolio can have a multiplier effect on the range of innovations that can be accessed by the firm.”); *see also* Kitch, *supra* note 3, at 1739 (“[A]n author or inventor, or their employers, will usually hold not one, but multiple rights, which will often be interrelated. The assembly of a portfolio of multiple intellectual property rights is one plausible way that an economic monopoly can be created. However, it is essential that firms are able to obtain multiple rights. . . . A single patent claim, much less a single patent, often covers only a small part of the technology needed to market a commercially competitive device.”).

56. *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946).

patent portfolios in the same way, theory and practice imply that portfolios should be treated differently than individual patents.⁵⁷ Individual patents are hotly contested, and their values turn on very specific characteristics. Thus, regulating a patent as a security would be like regulating a single share of stock as a security; it can be done, but what's the point? Potential buyers and licensees can perform due diligence and challenge the patent as necessary.⁵⁸ Although a single patent may fall into the definition of security just as a single share might, the costs of regulation are likely to outweigh the benefits that securities regulation can offer in addition to patent law.

Portfolios, on the other hand, increase the patent-holder's leverage even if the additional patents are of dubious quality. The owner can assert many claims, which make diligence and defense far more costly. Further, even if one patent is removed from the equation due to invalidity or noninfringement, there are many more patents in the portfolio.

These features of portfolios have two effects. First, they are far more efficient than single patents.⁵⁹ One owner is the point of contact. One license agreement can resolve disputes. Challenging an entire portfolio is fruitless. Indeed, even the owner has a disincentive to sue on the entire portfolio.⁶⁰ Asserting five hundred, or even one hundred, patents in a case is practically impossible. Second, the increased costs and risk of damages may give portfolio owners bargaining power that makes royalty extraction inefficient due to hold-up problems.⁶¹

57. See, e.g., Vincent Chiappetta, *Patent Exhaustion: What's It Good For?*, 51 SANTA CLARA L. REV. 1087, 1133–35 (2011) (discussing differing approaches to patent exhaustion when considered on a patent-by-patent basis versus the market as whole).

58. Others might even fund patent litigation as well. Jack Ellis, *Patent Litigation as an Asset Class*, INTELL. ASSET MGMT. MAG., Nov./Dec. 2012, at 43, 44–45.

59. See Lemley & Melamed, *supra* note 38, at 42 (“Complementary inputs cost less when they are acquired from a single supplier with market power than when the same inputs are acquired from multiple suppliers, each of which has market power. Aggregation of patents that are likely to confer some degree of market power in the hands of a single patent holder is therefore likely, all other things equal, to reduce technology users’ costs.”).

60. See *id.* at 9 (“Patent aggregators file very few suits relative to their impact . . .”).

61. Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1995–96 (2007); see Michael A. Carrier, *Patent Assertion Entities: Six Actions the Antitrust Agencies Can Take*, CPI ANTITRUST CHRON., Jan. 2013, at 1, 2–3 (discussing the harm of collecting patents by recounting IBM’s allegation of patent infringement against Sun Systems); Lemley & Melamed, *supra* note 38, at 43–44 (discussing NPE disaggregation into shell companies which may facilitate anticompetitive strategic action); Mark R. Patterson, *Leveraging Information About Patents: Settlements, Portfolios, and Holdups*, 50 HOUS. L. REV. 483, 504

Both of these features favor applying securities laws to patent portfolios. To the extent that securities laws favor information disclosure, more regulation is needed because portfolios do not lead to the same types of diligence as individual patents. Securities laws might provide an information-forcing function to provide information about the portfolio. Further, to the extent that securities laws aid in market formation, securities treatment may help create private markets with better transparency and pricing mechanisms.

How might a portfolio be considered a security? As noted above, portfolios are not traded like other securities. However, a portfolio might be monetized in three ways that might parallel a “trade”:

Purchase. First, an entire portfolio may be purchased outright,⁶² such as when Microsoft purchased 925 patents from AOL.⁶³

License. Second, a potentially infringing party might license a portfolio, such as when Dell licensed the use patents from IBM.

Holding companies. Third, buyers may purchase shares in a company or investment fund that asserts patents with or without a promise not to assert. Thus, the company “holds” the patents, and investors invest in the company’s stock. This comes closest to the traditional notion of “securitization.”⁶⁴ Publicly traded NPEs, like Acacia, represent a portfolio held in a fund separate from any promise not to sue; Google could buy shares in Acacia, but still be sued by Acacia. Because Acacia is publicly traded, there is no relationship between a potential infringer’s decision to invest in the company and the decision to license patents owned by the company.

Intellectual Ventures (IV) shows the complexity that is added when a portfolio is held by a privately financed company. Most observers agree that IV has acquired more patents than any other NPE, perhaps by far, and also that its corporate structure is very

(2013) (discussing the competitive advantage of large portfolios due to the increased difficulty of evaluating infringement). *But see* Jiaqing “Jack” Lu, *The Myths and Facts of Patent Troll and Excessive Payment: Have Nonpracticing Entities (NPEs) Been Overcompensated?*, 47 BUS. ECON. 234, 242 (2012) (finding a lack of empirical evidence that NPEs are overcompensated).

62. This includes an exclusive license, which allows the licensee to enforce patents.

63. *Facebook Buys AOL Patents from Microsoft in \$550m Deal*, *supra* note 53.

64. *See* Nikolic, *supra* note 3, at 401–04 (discussing “special purpose entities” that hold securitized patents).

complex.⁶⁵ The company includes several funds that acquire and license patents and also conducts its own research and development.⁶⁶

Potential infringers might obtain a license to some part of the overall portfolio held by a fund. Those same potential infringers might also invest in the fund, but there is more likely to be a relationship between the licensing and investment decision as part of the overall negotiation. If the licensee invests, then when the company obtains a new patent, IV could also provide some of the licensing royalties it receives as profits to that investor, just as it would provide to other investors. If the investor has obtained a broad enough license, then each additional patent acquisition might also include a promise not to sue on the new patent, which acts as a type of defensive strategy. It is no surprise, therefore, that large product companies have been listed in court documents as interested parties in IV patent litigation.⁶⁷ It is also no surprise, though, that other companies might simultaneously be investors and lawsuit defendants if their licenses were more limited.

The third type of portfolios—those owned by holding companies—are easily handled, because the investor purchases corporate stock in the company that is no different than other securities.⁶⁸ The securities laws would apply in the same way, at least as to investors in the holding company.⁶⁹ But the first two categories are not quite as analogous to stocks. Neither type is likely to be offered to the public; most patent licenses are privately offered. Thus, further analysis is necessary to determine if transactions in these categories should be regulated like securities.

65. See Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, 3–7, <http://stlr.stanford.edu/pdf/feldman-giants-among-us.pdf> (detailing IV patents and corporate structure).

66. *Funds*, INTELL. VENTURES, <http://www.intellectualventures.com/index.php/about/funds> (last visited Aug. 19, 2013).

67. See Ewing & Feldman, *supra* note 65, at 39–40 (describing the parties in the IV litigation).

68. See Nikolic, *supra* note 3, at 401–02 (describing how patents may be securitized by placing them in a special purpose entity).

69. See, e.g., *Pommer v. Medtest Corp.*, 961 F.2d 620, 623 (7th Cir. 1992) (applying securities laws to a company whose sole asset was a patent intended to be sold to a third party); *Argentum Int'l, LLC v. Woods*, 634 S.E.2d 195, 199 (Ga. Ct. App. 2006) (applying securities laws to a company whose primary asset related to patent ownership).

B. A Need for Securities Regulation

The policy of the securities laws meets goals that patent law cannot reach. The securities laws are generally recognized to have two primary purposes, primarily effected through disclosure and penalties for false disclosure. First, they are intended to protect buyers of securities.⁷⁰ If information is false, buyers will be duped. Second, they are intended to protect the markets for securities.⁷¹ If information is unreliable, then markets will be unavailable. Thus, one may ask whether patent buyers and licensees are the types of purchasers that require protecting and whether patent markets, which are primarily nonpublicly traded, can benefit from securities rules.

As discussed above, patent portfolios create leverage that may require regulation.⁷² These portfolios can be extraordinarily efficient at closing licensing transactions, but in the way that a bulldozer is efficient at demolishing things. The efficiency may limit the ability to challenge the portfolio, leaving any party approached by an aggregator at the mercy of the portfolio owner.⁷³ This, of course, is an overstatement. Potential defendants defend infringement suits and even file for declaratory relief on a regular basis.⁷⁴

Even so, however, some regulation might be beneficial to enhance market integrity and limit overzealous aggregators by requiring more disclosure. If implemented well, aggregators may welcome such regulation because courts may be more likely to affirm transactions in a regulated, high-integrity market.

One consideration is whether there are nonsecurities regulatory schemes that might provide protection. There is little need for securities laws if patent laws are sufficient. For example, in *United Housing Foundation, Inc. v. Forman*,⁷⁵ the Supreme Court considered whether housing cooperatives were securities. Though it did not rely on them solely, the Court emphasized the extensive regulations already applicable to the challenged housing cooperatives.⁷⁶ Further,

70. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 849 (1975).

71. *Id.*

72. *See supra* Part II.A.

73. *See* Gary L. Reback, *Patently Absurd*, FORBES (June 24, 2002), http://www.forbes.com/asap/2002/0624/044_print.html (describing IBM's portfolio-licensing practices).

74. Chester Chuang, *Offensive Venue: The Curious Use of Declaratory Judgment To Forum Shop in Patent Litigation*, 80 GEO. WASH. L. REV. 1065, 1067 (2012).

75. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837 (1975).

76. *Id.* at 842–44.

the existence of other regulation may not be enough to exempt a transaction from the securities laws, either, if the regulation is insufficient to protect buyers and sellers or the market.⁷⁷

The lack of alternative regulation—at least the type of regulation provided by securities treatment—favors the application of securities law. Patent law provides little alternative regulation. To be sure, there are several regulatory provisions in patent law, but each of these relate to challenging the validity of a single patent. Other than granting the inalienable right to challenge a patent's validity,⁷⁸ these regulations are not intended to protect buyers or licensees of patents, let alone patent portfolios. The patent-aggregation market is completely unregulated by patent law. As a result, securities law may be necessary to protect market participants. Patent law barely addresses market transactions.

Regulators have considered whether antitrust law should apply to aggregator hold-up, but such laws will be unlikely to provide the same benefits as securities laws. First, one must prove that each transaction is anticompetitive. Second, the remedies are more of a bludgeon than a regulator. Third, that law is primarily proscriptive and would not provide a framework for each and every transaction, nor would it aid in market formation.

C. *Securities and the Howey Test*

Securities are defined broadly in the Securities Act of 1933⁷⁹ (the 1933 Act) as

any note, stock, treasury stock, security future, bond, debenture, evidence of indebtedness, certificate of interest or participation in any *profit-sharing agreement*, . . . *investment contract*, . . . fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option, or privilege on any security, . . . or warrant or right to subscribe to or purchase, any of the foregoing.⁸⁰

The highlighted terms, “profit-sharing agreement” and “investment contract,” emphasize that a security is essentially any investment in a forward-looking venture in which the profit comes

77. See *SEC v. Life Partners, Inc.*, 87 F.3d 536, 541–42 (1996) (holding that securities laws might apply to viatical settlements, even though state laws regulate them already).

78. See, e.g., *Lear, Inc. v. Adkins*, 395 U.S. 653, 671 (1969) (allowing licensees to challenge patents even when they agree not to do so).

79. Securities Act of 1933 § 2(a)(1), 15 U.S.C. § 77b(a)(1) (2012).

80. *Id.* (emphasis added).

from the work of others.⁸¹ The Supreme Court has noted that securities should be defined broadly, with substance trumping form.⁸² In other words, according to a former Securities and Exchange Commission (SEC) senior attorney and commissioner of California corporations, “the statutory plan is apparently designed to regulate interests which secure capital for a venture, from investors, in exchange for a ‘piece of the action.’”⁸³

Obtaining a patent from the government does not create a security; securities only exist when others obtain an interest in the original asset.⁸⁴ Thus, IBM’s portfolio of patents would not constitute a security until sold or licensed to another company.

Courts use the *Howey* test as the generally accepted starting point to determine whether an arrangement constitutes the sale of a security. In *Howey*, purchasers bought an interest in land, coupled with a contract for development of that land to grow oranges.⁸⁵ In exchange, the investors were entitled to a portion of the profits from the sale of oranges.⁸⁶ The Supreme Court held that this was an investment contract within the 1933 Act:

The respondent companies are offering something more than fee simple interests in land, something different from a farm or orchard coupled with management services. They are offering an opportunity to contribute money and to share in the profits of a large citrus fruit enterprise managed and partly owned by respondents.⁸⁷

The Court identified the factors that define such a contract: (1) an investment of money with the expectation of profit, (2) in a

81. SEC v. W.J. Howey Co., 328 U.S. 293, 298–99 (1946).

82. See *Tcherepnin v. Knight*, 389 U.S. 332, 336 (1967) (“[F]orm should be disregarded for substance and emphasis should be on economic reality.”); see also *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 848 (1975) (refusing to find that shares of stock entitling the holder to lease apartments are securities merely because the interest was called “stock”).

83. John G. Sobieski, *What is a Security?*, 25 MERCER L. REV. 381, 385 (1974).

84. THOMAS LEE HAZEN, *THE LAW OF SECURITIES REGULATION* § 1.6 (6th ed. 2009) (“The first difference is that securities are created rather than produced. Securities can be issued in unlimited amounts and virtually without any costs since securities are nothing in themselves but rather represent only an interest in something else. Therefore, an important focus of securities regulation is assuring that when securities are created and offered to the public, investors have an accurate idea of what that ‘something else’ is and how much of an interest in that ‘something else’ the security in question represents.”).

85. *Howey*, 328 U.S. at 295–97.

86. *Id.* at 296.

87. *Id.* at 299.

common enterprise, (3) coming solely from the efforts of a promoter or third party.⁸⁸ However, the fact that patents might have intrinsic value themselves does not appear to be an impediment to treating their sale as securities, as the Court noted: “If [the investment contract] test be satisfied, it is immaterial whether the enterprise is speculative or non-speculative or whether there is a sale of property with or without intrinsic value.”⁸⁹

Patent portfolio transactions appear to satisfy the test, though individual patent transactions do not. The overarching theme is that patent portfolios are different from nonsecurity investment purchases (like precious minerals) for two primary reasons. First, they are part of a common enterprise: everyone buys and licenses the *same* portfolio, not different ones. Second, the value of each portfolio is determined in large part by the actions of a seller or licensor. The following subsections apply the *Howey* framework to patents.

1. *Investment of Money with the Expectation of Profit.* The *Howey* test requires that securities involve an investment of money with the expectation of profit. Because the purchase of patents and patent portfolios involve payments, it may seem obvious that there is an investment of money, but such an analysis would be deceptively simple. Typically, purchase of an asset for use is not considered an investment: “By contrast, when a purchaser is motivated by a desire to use or consume the item purchased—to occupy the land or to develop it themselves,’ . . .—the securities laws do not apply.”⁹⁰

Thus, in holding that “shares” in a cooperative housing development were not securities, the Court recognized what was missing:

[T]he right to receive ‘dividends contingent upon an apportionment of profits.’ Nor do they possess the other characteristics traditionally associated with stock: they are not negotiable; they cannot be pledged or hypothecated; they confer no voting rights in proportion to the number of shares owned; and they cannot appreciate in value. In short, the inducement to purchase was solely to acquire subsidized low-cost living space; it was not to invest for profit.⁹¹

88. *Id.* at 299–300.

89. *Id.* at 301.

90. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 852–53 (1975) (citation omitted) (quoting *Howey*, 328 U.S. at 300).

91. *Id.* at 851 (citation omitted) (quoting *Tcherepnin v. Knight*, 389 U.S. 332, 339 (1967)).

But patents are different. They are negotiable, even if not in the Uniform Commercial Code sense. At the very least, they are alienable and might be pledged and hypothecated. They can appreciate in value as they are litigated and defended from attack.

Thus, patents are a strange mix of use and investment. Technically, the patent itself provides no right to use any technology. Rather, it only allows the right to exclude others from practicing the patent.⁹² Even if every competitor were excluded from infringing the patent, the patent holder might still be barred by others who own competing patents on the same technology. Viewed this way, a patent can never be for personal use, but only for the value obtained by excluding others—an investment.

In short, the inducement to purchase a portfolio will often be expected profits. As a result, *Howey*'s profit expectation will most likely be satisfied for patent buyers, and especially for aggregators, who have no reason to purchase patents but for profit.

Similarly, patent holders may find financial investors who contribute money toward the purchase and/or enforcement of patents, but who do not obtain any license or ownership of the patent portfolio. If these investors purchased stock in a company or membership in an LLC, then they would surely qualify as securities purchasers. The same should be true even if there is no formal organization associated with the investment; the form of the investment may differ, but the profit expectation associated with the financial contribution is the same.

On the other hand, when parties merely license a portfolio from the owner (rather than purchase or finance it), a more difficult question of investment arises. After all, one infringes a patent by “using” the invention⁹³ and, as a result, licensors often grant licensees the right to use the invention. As discussed below, to avoid patent misuse allegations, when aggregators license large portfolios, they license the right to future use of the patent rather than simply release past infringement.⁹⁴ Thus, facially, licensees might be considered patent “users” rather than “investors.”

92. See 35 U.S.C. § 271(a) (2006) (“[W]hoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States . . . during the term of the patent . . . infringes the patent.”).

93. *Id.*

94. See *infra* Section III.B.2.

However, property theory implies that a license is a type of ownership interest, rather than simply a contract.⁹⁵ Further, economic reality implies that licensees may also invest with a profit expectation. In the rare but easy case, the value of a license will be predicated on the sales efforts of others, like a franchise agreement. When the license is predicated on the sales efforts of others, it is more likely to be considered a security.⁹⁶ After all, the licensee intends to profit on the sales of a patented product.

The more common case—litigation settlement or avoidance—still has a profit motive, even though the licensee is paying money with no expectation of a future return payment by the patent owner. The profit from the payment is the license itself—the use of the patented invention. If the patent is invalidated, the license turns out to be worthless.

A license fee—especially an up-front fee—is a payment made to fund a patent-holder’s business, even if the patent is later found invalid or noninfringed. Thus, there is a risk that a licensee will overpay for an unnecessary license. Though licensees need not pay future license fees after a patent is invalidated, neither are they entitled to a refund of past fees paid—fees that need not have been paid in the first place because the license benefit was illusory.⁹⁷

To the extent that patent settlements are viewed as nuisance payments, this might not be much of a concern. After all, a license buys peace, not use of the “worthless” patent. But even a nuisance payment gives a licensee an edge against competitors who refuse to make such payments. Whereas a licensee may continue doing business in peace, the competitors must spend time and money defending a patent-infringement case, with the risk of damages in a loss. This benefit disappears if a licensed patent is invalidated.

95. See Christopher M. Newman, *A License Is Not a “Contract Not To Sue”: Disentangling Property and Contract in the Law of Copyright Licenses*, 98 IOWA L. REV. 1101, 1141–42 (“[T]he basic building block of all license interests—the use-privilege—is *not* a contractual duty, but a property interest conveyed in exactly the same manner used in the realm of tangible property.”).

96. See *SEC v. Aqua-Sonic Prods. Corp.*, 524 F. Supp. 866, 877–78 (S.D.N.Y. 1981) (holding that patent licenses were securities in which sales of patented goods were performed by third parties other than the licensee).

97. Cf. George D. Kappus Jr., *The Franchise as a Security: Application of the Securities Laws to Owner-Operated Franchise*, 11 B.C. INDUS. & COM. L. REV. 228, 237 (1970) (“After the franchise is in operation, the franchisee’s control over his property is illusory, and thus the profit of the franchise depends upon the efforts of the franchisor.”).

This effect may also be reversed. If a licensor obtains one licensee, but fails to seek licenses from the licensee's competitors, then the licensee's investment might be less valuable. The licensee's costs have increased when others' have not. This relates to efforts of the licensor, as discussed in more detail below.

Courts may not be receptive to these arguments of "negative" profits associated with licensing. For example, the Supreme Court was skeptical of treating tax deductions and rental rate discounts as profits.⁹⁸ On the other hand, some cases have held that fluctuation in value or loss of investment might be considered an investment for profit.⁹⁹ The court in *SEC v. Life Partners, Inc.*¹⁰⁰ summarized this issue nicely:

The Court's general principle we think, is only that the expected profits must, in conformity with ordinary usage, be in the form of a financial return on the investment, not in the form of consumption. This principle distinguishes between buying a note secured by a car and buying the car itself.¹⁰¹

The question remains whether a patent or a patent license is more like the car or the note secured by the car. As in *Life Partners*, the purchase of a patent for aggregation must surely be considered a purchase for return on investment rather than current consumption. Companies are not buying patents in bulk for their individual value. A portfolio license is a more difficult case, but may also satisfy the investment-return test. Applied to a hybrid arrangement, in which others provide funds to pursue patent-infringement cases brought by the patent holder, such pooling might be considered a security.¹⁰²

98. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 855–56 (1979).

99. *See SEC v. Edwards*, 540 U.S. 389, 394 (2004) ("Thus, when we held that 'profits' must 'come solely from the efforts of others,' we were speaking of the profits that investors seek on their investment, not the profits of the scheme in which they invest. We used 'profits' in the sense of income or return, to include, for example, dividends, other periodic payments, or the increased value of the investment." (quoting *SEC v. W.J. Howey Co.*, 328 U.S. 293, 299 (1946))); *Guidry v. Bank of LaPlace*, 954 F.2d 278, 284 (5th Cir. 1992) ("Expectation of profit carries with it a connotation of potential appreciation or depreciation in value of the investment contract. That is, the arrangement must be so structured as to contemplate at the outset, some risk—either that the investor could lose his investment, or that the value of his return could fluctuate.").

100. *SEC v. Life Partners, Inc.*, 87 F.3d 536 (D.C. Cir. 1996).

101. *Id.* at 543.

102. *See* B.J. Tannenbaum, Jr., SEC No-Action Letter, [1986] Sec. Reg. L. Rep. (BNA) 2975 (Dec. 4, 1986).

2. *Common Enterprise*. The *Howey* test next requires a common enterprise. When determining whether an investment scheme is a security, courts also look to the “promoter” and the “investor.”¹⁰³ The promoter seeks money from the investor in a common enterprise in exchange for some future payout. Courts look to two different types of common enterprise: horizontal and vertical commonality.

Horizontal commonality is best demonstrated by typical company stock. Many people own a piece of a single asset, and profits in the underlying asset are distributed based on share of ownership.¹⁰⁴ Assets with horizontal commonality are almost always considered a security if the other requirements are met.

Vertical commonality is less stringent; it requires only that the profits of the investor are tied to the fortunes of the promoter.¹⁰⁵ With vertical commonality, courts have split on how closely the fortunes must be tied. Some courts require strict correlation, whereby the profits of the investor match the profits of the promoter.¹⁰⁶ This view appears to have been largely rejected. Most courts now require only a loose link, such that the investor can make some money even if the promoter makes much more.¹⁰⁷ Thus, the Supreme Court ruled that a payphone lease contract was a security, even though the investor was promised a fixed return.¹⁰⁸

Prediction markets, in which people bet on the outcomes of events that they do not control, like elections or the Academy Awards, are the loosest of vertical enterprises.¹⁰⁹ Indeed, the payout has nothing to do with the promoter, and is related only to a third-

103. *Howey*, 328 U.S. at 300 (“Thus all the elements of a profit-seeking business venture are present here. The investors provide the capital and share in the earnings and profits; the promoters manage, control and operate the enterprise.”).

104. Rodney L. Moore, *Defining an “Investment Contract”: The Commonality Requirement of the Howey Test*, 43 WASH. & LEE L. REV. 1057, 1062 (1986).

105. *Id.* at 1065.

106. *See Brodt v. Bache & Co.*, 595 F.2d 459, 461 (9th Cir. 1978) (“Here, strong efforts by Bache will not guarantee a return nor will Bache’s success necessarily mean a corresponding success for Brodt.”).

107. *See Long v. Shultz Cattle Co.*, 881 F.2d 129, 141 (5th Cir. 1989) (“Rather, the necessary interdependence may be demonstrated by the investors’ collective reliance on the promoter’s expertise even where the promoter receives only a flat fee or commission rather than a share in the profits of the venture.”).

108. *See SEC v. Edwards*, 540 U.S. 389, 397 (2004) (“The fact that investors have bargained for a return on their investment does not mean that the return is not also expected to come solely from the efforts of others.”).

109. *See Justin Wolfers & Eric Zitzewitz, Prediction Markets*, J. ECON. PERSP., Spring 2004, at 107, 110–11.

party outcome. If such an outcome is an election, the underlying “asset” is likely a product that is regulated as a commodity; however, if the underlying prediction constitutes earnings in a company, the prediction market may constitute a security.¹¹⁰

To the extent that courts accept loose vertical commonality, patent sales are more likely to be considered investment contracts.¹¹¹ Work by the patent seller will determine the patent’s validity and scope, and that work will affect the value to the downstream buyer. As discussed below, a court must accept a view of securities in which the seller’s work came before the sale rather than after it, but some case law supports this interpretation.¹¹² Indeed, the outcome can rely on a third-party event—the validity of the patent. This event will drive the fortunes of the investor regardless of whether the promoter’s efforts are included, so long as the promoter provides the asset.¹¹³

In contrast, a nonexclusive patent license may be more counterintuitively considered an investment in a common enterprise. Facially, a license is usually viewed as a damages payment, and there is no expected revenue stream from it.¹¹⁴ Despite appearances, however, the outcome and value of the license are still tied to the fortunes of the promoter.¹¹⁵ For example, if a patent is found invalid, then all other licensees may void their licenses and stop paying. This

110. See, e.g., George R. Neumann, CFTC No-Action Letter (June 18, 1993), available at <http://www.cftc.gov/files/foia/repfoia/foirf0503b004.pdf>; see also Tom W. Bell, *Prediction Markets for Promoting the Progress of Science and the Useful Arts*, 14 GEO. MASON L. REV. 37, 78 (2006) (arguing that prediction markets are not securities in part because they pit traders against each other, rather than in a common enterprise to amass investment).

111. See, e.g., SEC v. Brigadoon Scotch Distrib., Ltd., 388 F. Supp. 1288, 1291–92 (S.D.N.Y. 1975) (holding that there was commonality when the promoters used their expertise to find rare coins to be purchased by investors).

112. See *infra* Part II.C.3.

113. See *Caldwell v. State*, 95 S.W.3d 563,568 (Tex. App. 2002) (“An investor in a commodities account who establishes that he or she relied solely on the investment advice of a promoter satisfies the ‘solely from the efforts of others’ requirement.”).

114. Patent licenses are often viewed as an alternative to (and settlement of) potential litigation. As such, the payments made under license agreements are an alternative to potential damages (and defense) payments made in litigation. See generally John Kenneth Felter & Samuel Brenner, *Settlement Evidence and Patent Damages*, TRIAL EVIDENCE (Am. Bar Ass’n), July 2013, at 1, available at http://www.ropesgray.com/kenfelter/~media/Files/articles/2013/07/ABA%20-%20TrialEvidence_ArticleReprint_FelterandBrenner.ashx.

115. Indeed, such payments are declared as restoring goodwill rather than as income. *Tax Issues and Opportunities in Technology Litigation Judgments and Settlements*, WNTS INSIGHTS (PricewaterhouseCoopers), Oct. 2, 2012, at 1, 1 (discussing treatment of damage payments as goodwill restoring value of damaged patent asset).

means that, for ongoing royalty payments, the value of the license increases (through avoided costs) if the profits of the promoter decrease.

Furthermore, if a fixed license fee was paid and the entire portfolio is invalidated, then the license fee was paid in vain—the license is worthless. Here too, the value of the license is still tied to the profits of the patentee. This loose connection is still a commonality—even if it is reversed from usual expectations. Thus, a license can be a security similar to a put option, in which the value of the option increases as the share price decreases.

A related issue is division of ownership. When ownership is undivided, there can be no common enterprise. This is one reason why sales of homes and businesses, even for investment, are not generally considered securities. For example, the 1933 Act requires that interests in mineral rights must be fractional undivided interests.¹¹⁶ Thus, the question is whether patent rights must be fractional in a common enterprise.

If divided interest implies a security, then licenses might be considered a security, though outright purchases would not. This seems counter to the more obvious view that a portfolio sale is a security and a license is not. Then again, it probably strengthens the argument that nonexclusive licenses, though nonrivalrous, each constitute an interest in a common enterprise—the patent. Like mineral rights, if one promises benefits from the rights while another continues to own the interest, an investment contract is created. This is different from standard use assets, like a car or house, because the promised benefit is to be provided by the seller.

3. *From the Efforts of Others.* The *Howey* test's requirement that investments come solely from the efforts of others has been loosened through the years;¹¹⁷ currently, most courts will accept profits made through the efforts of others, even if the investor has expended some

116. See Securities Act of 1933 § 2(a)(1), 15 U.S.C. § 77b(a)(1) (2012) (defining securities to include any “fractional undivided interest in oil, gas, or other mineral rights”).

117. See *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 852 n.16 (1975) (noting the relaxation of the requirement without ruling on same); Miriam R. Albert, *The Howey Test Turns 64: Are the Courts Grading this Test on a Curve?*, 2 WM. & MARY BUS. L. REV. 1, 19 (2011) (“Lower courts have considered whether ‘solely’ means ‘only’ in their articulation of the *Howey* test, and some courts have eased the rigidity of the need to have the profits derived solely from the efforts of others by including profits that come ‘primarily,’ ‘substantially,’ or ‘predominantly’ from the efforts of others. . . . The Supreme Court itself softened its stance and seemingly endorsed a more relaxed standard . . .”).

effort.¹¹⁸ There is a limit to the amount of efforts tolerated by the investor, of course. Franchise agreements, like locally owned McDonald's or Ford dealerships, are usually not considered securities. They depend in large part on the operations of the investor, even if the promoter dictates many of the franchise terms (like the products, pricing, advertising, trademarks, and other company-wide properties).¹¹⁹ Thus, franchises usually fail the "from the efforts of others" prong because their success is based on the efforts of the investor.

Based on this, a license better fits the requirement than a sale. In a portfolio sale, the success depends on the buyer's enforcement efforts. In a portfolio license, the success depends on the seller's (licensor's) efforts to maintain validity and license to other entities.

But even if one accepts that the efforts need not be solely from the efforts of others, like in a portfolio sale, it is not clear *when* those efforts must be made. Can one sell a security in which the profits are to come from the past efforts of the promoter? This would seem to best fit initial patent sales, because the original patentee performed the efforts necessary to make the patent valuable, such as obtaining the patent, convincing the patent examiner that the invention was novel, and disclosing any harmful prior art. Changes in patent license value, on the other hand, will most likely be most affected by activities taking place after the license investment. The patent-holder's aggressiveness in enforcing the patents, as well as the strength of its defense regarding the validity of the patents, will affect license value in addition to the efforts of the original inventor.¹²⁰

118. See *SEC v. Life Partners, Inc.*, 87 F.3d 536, 545 (D.C. Cir. 1996) (stating the test as "predominantly" through the efforts of others); *SEC v. Int'l Loan Network, Inc.*, 968 F.2d 1304, 1308 (D.C. Cir. 1992) (holding that an investment contract satisfied the third prong of *Howey* where the profits were expected to arise "at least predominantly from the efforts of others"); *Goodman v. Epstein*, 582 F.2d 388, 408 n.59 (7th Cir. 1978) (holding that the investor's participation in arranging financing and proximity to the "management circle" made the investor's "Limited Partnership interest" an investment contract); *SEC v. Glenn W. Turner Enters.*, 474 F.2d 476, 482 (9th Cir. 1973) (stating that the test requires "the efforts made by those other than the investor are the undeniably significant ones, those essential managerial efforts which affect the failure or success of the enterprise"); *Blackwell v. Bentsen*, 203 F.2d 690, 693 (5th Cir. 1953) (holding that the transaction constituted an investment contract when the investor gave binding marketing instructions to the promoter).

119. See *Kappus*, *supra* note 97, at 234 ("However, in small franchises the owners and their families usually provide labor. Although these franchisees generally need the most protection, it is more difficult to apply the Supreme Court definition to this arrangement.").

120. Furthermore, treating portfolios as securities might create a fiduciary duty to increase license value just as company management owes to shareholders. See Stephen Bainbridge, *Case*

The courts are split. Some hold that prior efforts do not create a security, whereas others hold that prior efforts are sufficient to satisfy the statutory definition. In one case, the court held that work to find silver investments and an offer to store silver purchased by investors did not constitute a security because the efforts of the promoter (identification of the silver) came before the sale of the asset, and the storage was simply a ministerial act.¹²¹ Another case focused on post-sale efforts; the selection of real estate for sale was considered a sale of securities because the individual sales were coupled with promises to develop the lots after the investment.¹²²

The Court of Appeals for the D.C. Circuit made a similar ruling in *Life Partners*.¹²³ There, the alleged security was a viatical settlement—a life insurance policy purchased for a terminally ill patient. The court ruled that because the selection of patients and policies occurred before others invested, such settlements could not be securities.¹²⁴ Instead, any failure in the selection would be solved by common-law measures because the securities laws are not intended to cure all fraud, but rather only that fraud relating to future efforts of promoters and others.¹²⁵

Although this line of cases is well within the bounds of reason, it seems slightly out of step with the current application of securities laws.¹²⁶ So many of the requirements associated with securities laws relate to sales of securities based on improper past actions. Reporting requirements involve past financial results, not future projections. Initial public offering documents do list future risk factors, but most of the disclosures relate to past and current activities.¹²⁷ If those

Law on the Fiduciary Duty of Director To Maximize the Wealth of Corporate Shareholders, PROFESSORBAINBRIDGE.COM (May 5, 2012), <http://www.professorbainbridge.com/professorbainbridge.com/2012/05/case-law-on-the-fiduciary-duty-of-directors-to-maximize-the-wealth-of-corporate-shareholders.html>. However, operation of such a duty is ambiguous; in some cases license value might be maximized by invalidation of the patent. It is unlikely that courts will impose fiduciary duties in such cases.

121. *Noa v. Key Futures, Inc.*, 638 F.2d 77, 79–80 (9th Cir. 1980).

122. *McCown v. Heidler*, 527 F.2d 204, 211 (10th Cir. 1975).

123. *Life Partners*, 87 F.3d at 547–48.

124. *Id.*

125. *Id.* at 548.

126. According to one reviewer, more than one hundred articles have opined about whether viatical settlements are securities. Albert, *supra* note 117, at 22 n.105. Seventeen states have now amended their securities laws to explicitly include viatical settlements as securities. *Id.* at 32–33.

127. Securities Act of 1933 §§ 7, 10, Sched. A, 15 U.S.C. §§ 77g, 77j, 77aa (2012) (listing information to be disclosed in a registration statement and prospectus, including balance sheets, profit and loss statements, and past contracts).

disclosures are false, it is considered fraud. Stock fraud almost always relates to some event that occurs prior to a sale. Indeed, the Supreme Court has ruled that there can be no cause of action if one did not actually buy or sell a security in reliance on a misstatement; simply holding on to a security that falls in value is insufficient.¹²⁸ These rules imply that past efforts must have some influence on the profits or value of an investment. Otherwise, why should they matter? Do we really expect that purchasers will have a better ability to evaluate past actions than current and future actions?

These concerns led to a division in the courts. More recent decisions have held that preinvestment efforts satisfy the *Howey* test.¹²⁹ For example, at least one federal court of appeals has ruled that viatical settlements are, in fact, securities.¹³⁰ There, the court rejected the test in *Life Partners*:

While it may be true that the ‘solely on the efforts of the promoter or a third party’ prong of the *Howey* test is more easily satisfied by post-purchase activities, there is no basis for excluding pre-purchase managerial activities from the analysis. . . . Courts have found investment contracts in which significant efforts included the pre-purchase exercise of expertise by promoters in selecting or negotiating the price of an asset in which investors would acquire an interest.¹³¹

A vast majority of state courts have agreed, and treat viatical investments as securities.¹³²

Thus, a key “efforts of others” issue is how much control the seller has in determining patent portfolio value. Arguably, if the buyer maintains all control, then the sale would not be a security.¹³³ On the other hand, the fact that the buyer is participating in the

128. *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723, 749 (1975).

129. *See, e.g., Wuliger v. Eberle*, 414 F. Supp. 2d 814, 819–21 (N.D. Ohio 2006); *SEC v. Tyler*, No. 3:03-CV-0282-P, 2002 WL 32538418, at *6 (N.D. Tex. Feb. 21, 2002); *see also SEC v. Brigadoon Scotch Distrib., Ltd.*, 388 F. Supp. 1288, 1291–92 (S.D.N.Y. 1975) (holding that the sale of coins based on expertise exercised before purchase is a security).

130. *SEC v. Mut. Benefits Corp.*, 408 F.3d 737, 745 (11th Cir. 2005).

131. *Id.* at 743–44.

132. Joseph J. Rotunda & Moge Lovelle, *From Stocks and Bonds Through Betting on Death: The Applicability of Securities Laws and the Regulation of New and Creative Investments*, *THE ADVOC.*, Summer 2012, at 58, 60.

133. *Cf. State v. Heath*, 153 S.E. 855, 858 (N.C. 1930) (holding that an exclusive copyright license was not a security when the licensee had control over the exploitation of the copyrighted work); *State v. Williams*, 563 P.2d 1270, 1271–72 (Wash. Ct. App. 1977) (holding that a fractional ownership interest in a patent is a security because of its small size).

exploitation may be irrelevant to the determination of patents as a security.¹³⁴ After all, the validity of the patent and its general application (the breadth of the claims) lie within the control of the seller, even if that control was exercised presale. If the seller maintains control over the key issues of validity, the buyer's participation in asserting the patent for infringement would be relevant not to whether the patent was a security, but instead to whether the patent was offered to the public or sold in a private placement.

Finally, the seller maintains control over whom it approaches for licenses. The value of one licensee's purchase will be affected by which of the licensee's competitors face enforcement, which competitors enter into license agreements, and which competitors are left alone.¹³⁵ All of these choices are in the seller's control—post sale—not the buyer's control. In fact, the “effort of others” prong is more closely met in the licensing scenario. There, the seller remains in the picture, obtaining other licensees, defending the patents, and so forth. In the portfolio-sale scenario, the seller exits the picture, and is no longer involved with the ongoing enterprise. This implies that licenses more closely behave like securities than sales do.

D. Licenses and Risk Capital

If it seems odd that a license might be considered a security, there is judicial precedent supporting this proposition. In *Silver Hills Country Club v. Sobieski*,¹³⁶ the California Supreme Court ruled that a nonownership license to use a country club, despite the payment of monthly dues,¹³⁷ constituted a security. As the court there noted:

Petitioners are soliciting the risk capital with which to develop a business for profit. . . . [Section 25008 of the California Corporations

134. See *SEC v. Glenn W. Turner Enters., Inc.*, 474 F.2d 476, 482 (9th Cir. 1973) (holding that an investment in a plan that required active sales efforts of the buyer was a security and noting that “the word ‘solely’ should not be read as a strict or literal limitation on the definition of an investment contract, but rather must be construed realistically, so as to include within the definition those schemes which involve in substance, if not form, securities”); *Brigadoon Scotch*, 388 F. Supp. at 1291–92 (holding that sale of coins constituted a security even though the buyer held the investment asset, coins, after purchase).

135. See Charles W. Shifley, *Industry Perspectives on Patent Damages Including the Damages Component of Settlement Negotiations*, A.B.A., <http://www.ftp.abanet.org/litigation/committees/intellectual/articles.html> (last visited Aug. 19, 2013) (discussing the “greater interest of industry defendants to have parity with their competitors than in their absolute costs”).

136. *Silver Hills Country Club v. Sobieski*, 361 P.2d 906 (Cal. 1961).

137. *Id.* at 906–07.

Code, which defines the term “security,”) is as clearly applicable to the sale of promotional memberships in the present case as it would be had the purchasers expected their return in some such familiar form as dividends.¹³⁸

The *Silver Hills Country Club* case adopted what is now a well-recognized, though not universally used, test: the “risk capital” test.¹³⁹ The test asks whether there is a risk that the original payment will not be realized in a benefit from the venture.¹⁴⁰ As the court noted, “The purchaser’s risk is not lessened merely because the interest he purchases is labelled [sic] a membership. Only because he risks his capital along with other purchasers can there be any chance that the benefits of club membership will materialize.”¹⁴¹

The risk-capital test is not widely used in federal courts. Indeed, the Supreme Court has rejected it.¹⁴² However, it is used by some state courts, often in conjunction with the *Howey* test.¹⁴³ As such, it provides an analytical framework that supplements the *Howey* test.¹⁴⁴

This framework aids how one might assess patents as securities. Applied to patent purchasing, the risk capital is for the purchase of a risky asset.¹⁴⁵ The purchase price—and any royalties—are at risk

138. *Id.* at 908–09.

139. Dennis S. Corgill, *Securities as Investments at Risk*, 67 TUL. L. REV. 861, 868 (1993).

140. *See id.* at 815 (“It bears noting that the act extends even to transactions where capital is placed without expectation of any material benefits. . . . Since the act does not make profit to the supplier of capital the test of what is a security, it seems all the more clear that its objective is to afford those who risk their capital at least a fair chance of realizing their objectives in legitimate ventures whether or not they expect a return on their capital in one form or another.”)

141. *Silver Hills Country Club*, 361 P.2d at 908; *see also* *Reves v. Ernst & Young*, 494 U.S. 56, 66–67 (1990) (discussing the family-resemblance test and an examination of motivations, expectations, and distribution plans).

142. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 857 n.24 (1975).

143. *See* JOSEPH C. LONG, 12 BLUE SKY LAW §§ 2:80, 2:86 (2012) (describing the use of the risk-capital test in California, Florida, Georgia, Hawaii, Michigan, Oregon, Tennessee, Washington and other states).

144. *See id.*; *see also* *SEC v. Edwards*, 540 U.S. 389, 393–94 (2004) (explaining that the *Howey* test is derived from state securities laws).

145. *See* *United States v. Schaefer*, 299 F.2d 625, 628 (7th Cir. 1962) (holding that the sale of interest in profits from a patent is a security); *People v. Shafer*, 19 P.2d 861, 862 (Cal. Dist. Ct. App. 1933) (holding that the sale of the right “to participate to the amount of his or her interest in any future enterprises of any nature whatever which may grow out of or arise from said invention or any letters patent which may be issued thereon” constituted a security under California law). *But see* *Schmoyer v. Van Hosen*, 208 P. 554, 557 (Kan. 1922) (“If the purpose [of the Kansas Blue Sky law] had been to require a permit for the sale of patent rights of a speculative character we think it would have been indicated expressly or by clearer implication than we find in the present statute.”).

should the patent be invalidated or noninfringed.¹⁴⁶ With respect to licenses rather than purchases, the license fee might be considered an up-front payment to use a patent and that payment becomes worthless if the patent is invalid. Thus, the licensee faces the risk that its competitors will not have to pay a similar fee to practice the patent, and that its license fee did not really buy anything, given that the patent is no longer valid. Further, the portfolio's value is largely in the hands of the seller, which separates patent portfolios from other speculative purchases.

III. IMPLICATIONS OF PATENT-PORTFOLIO SECURITIES

Treating patent portfolios like securities will lead to two primary changes in how we think about patent transactions. First, the securities laws will apply to patent transactions to increase market integrity. Thus, transactions must be exempted from the rules, or else be subject to registration rules. It turns out that most transactions likely will be exempt, but some transactions—the ones most needing regulatory protection—will fall under the registration requirements. Furthermore, securities laws bring fraud rules, even for exempt transactions, and those rules will protect portfolio buyers and licensees. This Article considers federal laws only, although state securities laws might also apply.

Second, securities treatment might spur improved pricing methods to aid market transactions. The Dodd-Frank Wall Street Reform and Consumer Protection Act¹⁴⁷ (Dodd-Frank Act) requires that certain private transactions be reported in clearinghouses; even if the transactions are exempt from registration requirements, public knowledge of licenses will have future negotiation and price setting. Taking this a step further, treating patent portfolios as securities will help focus participants on the development of objective and efficient pricing strategies rather than on individual patent validity.

146. See, e.g., *Kemmerer v. Weaver*, 445 F.2d 76, 79 (7th Cir. 1971) (“The whole underlying format of the arrangement was that the purchaser of individual beavers was to put up the money and then ‘sit back and let nature take its course’ or, more precisely, to ‘let things ride while (his) herd builds up and up and up’, hoping ultimately to ‘sell the herd (or part of it), bank the profits and enjoy long-term capital gains.”). The court in *Kemmerer* held that the sale of beavers was a security. *Id.* But see *Copeland v. Hill*, 680 F. Supp. 466, 469 (D. Mass. 1988) (holding that the sale of rare coins was not a security).

147. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (codified as amended in scattered sections of the U.S. Code).

A. *Market Integrity*

If patent portfolios are securities, then their purchase and sale should be regulated like other securities. This implicates several key aspects of securities regulation related to disclosure and market integrity.

1. *Public and Exempt Offerings.* In general, securities must not be sold to the public unless they are registered with the SEC,¹⁴⁸ an expensive and time-consuming process. Furthermore, public sale requires public reporting of revenues and expenses associated with the security,¹⁴⁹ something that many patent aggregators may be unhappy to do. On the other hand, such reporting would likely aid in setting efficient pricing, as discussed in the next subsection. Even with the benefits of reporting, however, if every portfolio required registration, many efficiency benefits of securities treatment might be lost.

In the alternative, some sales are exempt from the registration requirement. The remainder of this subsection discusses the available exemptions. Most portfolio transactions will fall under an exemption, though a few will not. An exemption would maintain fraud and transparency benefits discussed below, but might avoid the costs of registration.

a. *Purely Private Transactions.* Sales that are purely private are exempt.¹⁵⁰ Most portfolio transactions will likely fall under this exemption. Sales and licenses usually occur in private, between two companies, with a very small group of sophisticated potential buyers and licensees. Even so, such sales may require steps to ensure that the transaction remains private.¹⁵¹

148. Securities Act of 1933 § 5, 15 U.S.C. § 77e (2012).

149. Securities Exchange Act of 1934 §§ 12, 13, 14 U.S.C. §§ 78l, 78m, 78n (2012).

150. Securities Act of 1933 §4(a)(2) (exempting “transactions by an issuer not involving any public offering”).

151. See *SEC v. Ralston Purina Co.*, 346 U.S. 119, 125–27 (1953) (holding that exemption depends in part on investor sophistication and information); E.F. Hutton & Co., SEC No-Action Letter, 18 Sec. Reg. L. Rep. (BNA) 171, 172 (Jan. 31, 1986) (noting that the existence of prior substantive relationships with offerees is a factor in evaluating whether a general solicitation has occurred); Use of Legends and Stop-Transfer Instructions as Evidence of Non-Public Offering, Securities Act Release No. 33-5121, 36 Fed. Reg. 1525 (Dec. 30, 1970) (noting that the existence of an appropriate legend or stop-transfer instructions is a factor to be considered in determining whether to grant an exemption); Letter of General Counsel,

There are a few exceptions, however, that might push the envelope. For example, a portfolio holder might send demand letters to one thousand or ten thousand potential licensees.¹⁵² Such a letter might be considered a public offer,¹⁵³ and thus require registration. Furthermore, the letter would likely be a public solicitation, which violates SEC rules.¹⁵⁴

An alternate view is that such letters are not offers at all. The letters might instead be considered settlement demands. The “nonoffer” view would likely gain little traction. First, because patent holders want to avoid declaratory-relief actions, the language of such letters would almost certainly be framed in terms of a voluntary license, not a demand.¹⁵⁵ Second, the law looks to the substantive relationship between the parties, not the form of the offer.¹⁵⁶ As such, sending many letters would likely be considered a “general solicitation,” and thus a public offer.

It turns out that treating mass demand letters as a public offer is a surprising benefit of treating portfolios as securities. Recently, small companies (and others) have become concerned with receiving demand letters sent to the masses.¹⁵⁷ Commentators worry that such demand letters take advantage of unsophisticated recipients who do not know enough about the patents to evaluate risk or fairly negotiate.¹⁵⁸

Securities Act Release No. 285, 11 Fed. Reg. 10953 (Jan. 24, 1935) (explaining the importance of an issuer’s selection of and relationship with offerees).

152. See, e.g., Joe Mullin, *Patent Trolls Want \$1,000—for Using Scanners*, ARS TECHNICA (Jan. 2, 2013, 9:30 AM) <http://arstechnica.com/tech-policy/2013/01/patent-trolls-want-1000-for-using-scanners> (describing one particular entity that sent out “hundreds, if not thousands, of copies of the same demand letter to small businesses”).

153. See SEC v. Tecumseh Holdings Corp., No. 03 Civ. 5490(SAS), 2009 WL 4975263, at *4 (S.D.N.Y. 2009) (holding that an offeror’s nationwide cold-calling campaign was a general form of solicitation that precluded exceptions under Regulation D, 17 C.F.R. §§ 230.501–508 (2003)).

154. *Risdall v. Brown-Wilbert, Inc.*, 753 N.W.2d 723, 726, 734 (Minn. 2008) (recalling that a posting on the Internet constituted general advertising and solicitation).

155. Kristin Johnson Doyle, *Patent Demand Letters: Avoiding Declaratory Judgment Jurisdiction*, INTELL. PROP. TODAY, Feb. 2010, at 30, available at <http://www.iptoday.com/issues/2010/02/patent-demand-letters-avoiding-declaratory-judgment-jurisdiction-part-2-2.asp>.

156. E.F. Hutton & Co., SEC No-Action Letter, 18 Sec. Reg. L. Rep. (BNA) at 172 (“Substantive relationships may be established with persons who have provided satisfactory responses to questionnaires that provide Hutton with sufficient information to evaluate the prospective offerees’ sophistication and financial circumstances.”).

157. Mullin, *supra* note 152.

158. See, e.g., Chien, *supra* note 22, at 1 (“Small companies and startups are more vulnerable to failure than large, well-established companies, and the implications of this vulnerability as it relates to patent demands are not well understood.”).

Thus, treating mass demand letters as public offerings would offer two benefits. First, the cost of registration with the SEC might dissuade some portfolio holders from sending a demand letter, thus limiting the deleterious effect of such demands.¹⁵⁹ Second, to the extent that such demands are the most expedient way to enforce the patent, registration would require public disclosure regarding the portfolio, including any challenges to the patents and any prior licenses that might shed light on future license fees. An unfortunate side effect of this information forcing, though, would be increased costs passed on to licensees. Even so, the additional information and disincentive to register in the first place may justify the registration requirement.

But not all solicitations made to the public are public offerings.¹⁶⁰ Courts have held that private transactions can remain exempt, even if they are initiated through public methods such as advertisement or cold calling.¹⁶¹ The seller helps itself when it takes steps to ensure that potential buyers would qualify as buyers with sufficient information and sophistication.¹⁶² Because most portfolio purchasers and licensors would qualify, most offers will still fall under the nonpublic exemption.

Further, SEC Rules were recently amended to make public solicitation of private sales much easier. They allow for unlimited sales to wealthy investors, *even if nonqualifying investors were recipients of public offers*.¹⁶³ In fact, this amendment may potentially

159. Portfolio owners would not be left without a remedy. They could sue sellers of the products that enable end users to infringe. See 35 U.S.C. §271(c) (2006) (defining contributory liability to include providing components of infringing product). One concern with mass demand letters is that they bypass the lowest cost defendant in the chain: the intermediate enabler.

160. See *Lewis v. Fresne*, 252 F.3d 352, 358 (5th Cir. 2001) (“Two of the criteria for determining if a transaction is public are the size of the offering and the number of offerees.”).

161. *ESI Montgomery Cnty., Inc. v. Montenay Int’l Corp.*, 899 F. Supp. 1061, 1065 (S.D.N.Y. 1995) (“Whether an offering is public within the meaning of the 1933 act depends on ‘(1) the number of offerees; (2) the sophistication of the offerees, including their access to the type of information that would be contained in a registration statement; and (3) the manner of the offering.’” (quoting *United States v. Arutunoff*, 1 F.3d 1112, 1118 (10th Cir. 1993))).

162. THOMAS LEE HAZEN, 1 TREATISE ON THE LAW OF SECURITIES REGULATION § 4.25 (6th ed. 2009) (“The safe harbor protection, thus, is no longer dependent upon the issuer being able to prove that *each* offeree was qualified. On the other hand, if the issuer cannot show that it took adequate precautions against the solicitation of nonqualified offerees, it may lose the section 4(2) exemption because of the inability to show that a general solicitation did not take place.” (footnotes omitted)).

163. 17 C.F.R. § 230.506 (2013); Benjamin G. Lombard, *United States: SEC Eliminates Prohibition Against General Solicitation in Rule 506 Offerings and Adopts Rule Disqualifying*

eliminate the need for registration of initial public offerings before public offers are made.¹⁶⁴

Consider, for example, Kodak's recent bankruptcy auction of its patent portfolio.¹⁶⁵ The offer came from the court; as such, it was widely reported and surely a public offer designed to obtain the largest bid possible. In reality, however, very few companies were going to pay the multibillion-dollar price that Kodak expected to receive for its patents.¹⁶⁶ In this sense, the offer was not really public. It was designed to only attract those buyers that would otherwise be exempt. Thus, even public announcements of portfolio sales might not really be public offerings, and thus the concerns of the 1933 Act do not really apply to such transactions. Indeed, under the new rules, they would be exempt without question if the buyers qualified.

As discussed in the next sections, most parties will also fall into safe harbors that allow for sales even to nonwealthy licensees and purchasers.

b. Underwriters and Dealers. There are fewer restrictions for securities transactions on those who did not issue the security.¹⁶⁷ In other words, those who buy stock may usually resell it,¹⁶⁸ provided

Bad Actors from Rule 506 Offerings, MONDAQ, <http://www.mondaq.com/unitedstates/x/252122/Securities/SEC+Eliminates+Prohibition+Against+General+Solicitation+In+Rule+506+Offering+s+And+Adopts+Rule+Disqualifying+Bad+Actors+From+Rule+506+Offerings> (last visited Aug. 19, 2013).

164. Christine Hurt, *More on General Solicitation: The Death of the IPO?*, THE CONGLOMERATE (July 16, 2013), <http://www.theconglomerate.org/2013/07/more-on-general-solicitation-the-death-of-the-ipo.html> (“Company B can purchase billboards, taxi signs, sandwich boards, Facebook ads, or even send an email to every person on earth. The catch is that it can accept offers to buy only from accredited investors.”).

165. David McLaughlin, *Apple, Google Deal for Kodak Patents Approved by Judge*, BLOOMBERG (Jan. 11, 2013, 1:09 PM), <http://www.bloomberg.com/news/2013-01-11/apple-google-deal-for-kodak-patents-approved-by-judge.html>. Put aside for one moment that the bankruptcy court sanctioned the sale, which might change the way that exemptions are viewed.

166. See Debtors' Motion For Orders (I) (A) Conditionally Authorizing the Sale of Patent Assets Free and Clear of Claims and Interests, (B) Establishing a Competitive Bidding Process and (C) Approving the Notice Procedures and (II) Authorizing the Sale of Patent Assets Free and Clear of Claims and Interests at 10–11, *In re Eastman Kodak Company*, 479 B.R. 280 (Bankr. S.D.N.Y. 2012) (No. 12-10202 (ALG)), 2012 WL 3880042, at *22–23 (requiring as a condition for bidding “preliminary proof of the financial capacity of such person or entity to close the Sale, which may include current unaudited or verified financial statements of such person or entity”).

167. See Securities Act of 1933 § 4(a)(1), 15 U.S.C. § 77d(a)(1) (2012) (excepting “transactions by any person other than an issuer, underwriter, or dealer”).

168. *Id.*

they are not affiliated with the issuer.¹⁶⁹ Presumably, the original seller of a portfolio—that is, the first to aggregate it—would be the “issuer” with respect to a later buyer of the whole portfolio. Similarly, the aggregator would be the issuer with respect to future licensees. Thus, portfolio buyers and licensees could transfer their respective rights while remaining exempt from registration.

However, there is an important limitation: underwriters and dealers, like issuers, are not exempt.¹⁷⁰ This means that intermediary market makers cannot take the place of issuers to avoid registration requirements. An underwriter includes “any person who has purchased from an issuer with a view to, or offers or sells for an issuer in connection with, the distribution of any security.”¹⁷¹ A dealer, in turn, is “any person who engages either for all or part of his time, directly or indirectly, as agent, broker, or principal, in the business of offering, buying, selling, or otherwise dealing or trading in securities issued by another person.”¹⁷²

For example, when Microsoft purchased a portfolio of patents from AOL and then quickly resold half of the portfolio to Facebook,¹⁷³ Microsoft likely fit the definition of an underwriter. It purchased the security with a view to distributing it to AOL, and as an underwriter it would lose the exemption of § 4(a)(1) and the exemption of § 4(a)(2) because it was not an issuer.¹⁷⁴

But underwriters may be even more common than suggested by the large Microsoft transaction. For example, any entity that purchases a portfolio intending to license it to other companies might be considered an underwriter. Consider also Ocean Tomo, a company that periodically conducts patent auctions and aids companies in monetizing their patent portfolios.¹⁷⁵ Under the broad definition of dealer, Ocean Tomo’s activities render it a dealer and probably even an underwriter.¹⁷⁶ Even though a dealer is exempt much of the time,¹⁷⁷

169. SEC Rules 144 and 144A detail some exceptions to this rule. *See* 17 C.F.R. §§ 230.144, 144A (2013).

170. Securities Act of 1933 § 4(a)(1).

171. *Id.* § 2(a)(11).

172. *Id.* § 2(a)(12).

173. *See Facebook Buys AOL Patents from Microsoft in \$550m Deal*, *supra* note 53.

174. *See* Securities Act of 1933 §§ 4(a)(1), (2).

175. *About Ocean Tomo*, OCEAN TOMO, <http://www.oceantomo.com/about> (last visited June 30, 2013).

176. It would be an underwriter if it were considered to be selling on behalf of an issuer. *See* SEC v. Chinese Consolidated Benevolent Ass’n, 120 F.2d 738, 741 (2d Cir. 1941) (holding that a

to the extent that a dealer aids an issuer or another underwriter to complete a transaction, it transforms into an underwriter and loses its exemption.¹⁷⁸

Despite appearing to fail the test for a § 4(a)(1) exemption, most underwriter and dealer transactions will still be exempt with respect to patent portfolios. Courts and commentators have noted the existence of a so-called Section 4(1½) exemption.¹⁷⁹ This exemption recognizes that underwriter transactions that would have been exempt under § 4(a)(2) as nonpublic offerings should also be exempt under § 4(a)(1).¹⁸⁰ The language of the statute supports this policy somewhat. Underwriters are those who buy intending to distribute; distribution, in turn, is undefined in the statute, but has generally been interpreted to mean a public offering.¹⁸¹

Most intermediated transactions will likely fall under the Section 4(1½) exemption for the same reasons that most issuer transactions will be exempt. Intermediated deals are not generally offered to the public; they are offered privately, and fit exemption rules for size and sophistication of purchasers, as discussed below. The new buyer would be required to make exempt sales only as well.¹⁸² Practically, this means that auction houses would have to be selective about potential bidders to ensure that the transaction is exempt.

company that assisted with the solicitation of an investment is an underwriter). If it merely assisted, then perhaps not. *See In re Refco, Inc., Sec. Litig. No. 05 Civ. 9626(GEL)*, 2008 WL 3843343, at *4 (S.D.N.Y. 2008) (“While the definition of ‘underwriter’ is indeed broad and is to be interpreted broadly, it must be read in relation to the underwriting function that the definition is intended to capture.”).

177. Securities Act of 1933 § 4(a)(3).

178. *Id.* § 2(a)(11).

179. A Section 4(a)(1½) exemption just does not have the same panache following the recent addition of an “(a)” subpart in what used to be §§ 4(1) and 4(2). *See Jumpstart Our Business Startups Act*, Pub. L. No. 112-106, § 201, 126 Stat. 306, 313 (2012).

180. *See Carl W. Schneider, Section 4(1-1/2)—Private Resales of Restricted or Control Securities*, 49 OHIO ST. L.J. 501, 510 (1988) (“Thus, there would appear to be no reason to preclude an intent (or at least reservation of the right) to make further *private* resales by the initial Holder or his Purchaser, absent a pyramiding problem that results in a public offering from a series of purportedly integrated private sales.”).

181. *Id.*

182. *See SEC v. Cavanagh*, 1 F. Supp. 2d 337, 369 (S.D.N.Y. 1998) (“Accordingly, the SEC has noted approvingly of precautions such as placing a legend on the securities alerting the buyer to the restricted character of the securities.”); Schneider, *supra* note 180, at 510 (“In short, the general principles applicable to a Holder should apply to said Purchaser, with such Purchaser being, in essence, a new ‘Holder’ in connection with his own later section 4(1-1/2) sale.”).

Finally, if one is inclined to dismiss portfolio sales as securities, but accept portfolio licenses as securities, then underwriters will likely disappear from consideration. In such a scenario, purchases of portfolios would not be security transactions, so their subsequent licensing would be considered issuer transactions with the current portfolio owner as issuer. The result would be the same, of course; the exemption would just change from § 4(a)(1) to § 4(a)(2).

c. Transaction Size and Investor Sophistication. The law provides several safe harbors based on placements of small value or to special investors—whether by an issuer or underwriter.¹⁸³ For example, an offering of less than \$5,000,000 in the aggregate is exempt when made to investors of sufficient wealth and sophistication, called “accredited investors,” so long as the seller does not publicly advertise or solicit buyers.¹⁸⁴

Among other accreditation triggers, the threshold most relevant to this Article states that a company with \$5,000,000 in assets is an accredited investor.¹⁸⁵ Most companies buying patent portfolios will meet this rule, and many licensees will as well.¹⁸⁶ Even if all do not, SEC Rules allow sales to up to thirty-five unaccredited investors, so long as the total aggregate offering price is under \$5,000,000.¹⁸⁷ Further, so long as unaccredited buyers have “such knowledge and experience in financial and business matters that they are capable of evaluating the merits and risks of the prospective investment,” the sale will be considered exempt under the Rule 506 safe harbor to § 4(a)(2), *regardless of offering size*.¹⁸⁸

Further, the SEC allows for sales under \$1,000,000 in total to be considered private, exempt transactions under the Rule 504 safe harbor to § 3(b). So long as certain additional criteria are met,¹⁸⁹ § 4 public offering considerations do not apply, and anyone is a potential purchaser.

183. See, e.g., Securities Act of 1933 § 3(b) (allowing regulations to exempt offerings less than \$5,000,000); 17 C.F.R. §§ 230.504–505 (2013) (providing safe harbors for smaller transactions).

184. Securities Act of 1933 § 4(a)(5).

185. 17 C.F.R. § 230.501(a)(3).

186. Of course, blockbuster portfolio transactions will exceed the aggregate total.

187. 17 C.F.R. § 230.501(e)(1)(iv) (excluding accredited investors); *id.* § 230.505(b)(2)(ii) (limiting investors to thirty-five sales).

188. *Id.* § 230.506. This assumes, of course, that all other requirements are met.

189. See *id.* § 230.504.

One benefit of the regulations is that sellers must give notice to the SEC, which creates a public record of transactions.¹⁹⁰ Further, transactions relying on § 4(a)(2) are considered nonpublic, and would require steps to be taken so that the buyer does not transfer the securities except in a nonpublic transaction.¹⁹¹

The small-value and accredited-investor exceptions would affect regulation of mass demand letters sent to small companies. Small end-users might not fall into an accredited exception that allows them to license the portfolio at a high dollar amount. This would leave the patent holder with five primary choices: (1) reduce the amount to fall under the \$5,000,000 aggregate exemption, which allows for sales to thirty-five unaccredited investors;¹⁹² (2) reduce the amount to fall under the \$1,000,000 aggregate exemption, which allows sales to unlimited unaccredited investors;¹⁹³ (3) register the portfolio with the SEC, (4) seek licenses from larger companies that enable end-user infringement, or (5) sue end users for infringement.¹⁹⁴

Based on these options, the end result may be the same in many cases. However, more thought than is currently given to the process would be required before any transaction to ensure that the goals of the securities laws are in fact met: large transactions with smaller companies require more information disclosure.

d. Transaction Brokers. Even if they are involved in private or small transactions that are exempt under the 1933 Act, those who assist in portfolio transactions¹⁹⁵ might still be regulated under the Securities Exchange Act of 1934 (the 1934 Act).¹⁹⁶ Brokers are defined as “any person engaged in the business of effecting transactions in securities for the account of others.”¹⁹⁷ Brokers (and dealers within the 1934 Act¹⁹⁸) must register with the SEC; they must

190. Securities Act of 1933 § 4(a)(5), 15 U.S.C. § 77d(a)(5) (2012); 17 C.F.R. § 239.500.

191. 17 C.F.R. § 230.502(d).

192. *Id.* § 230.505.

193. *Id.* § 230.502(b).

194. Resolution of a bona fide patent dispute might be considered a private placement.

195. *See, e.g.*, ICAP PATENT BROKERAGE, <http://icappatentbrokerage.com> (last visited Aug. 20, 2013); OCEAN TOMO, <http://www.oceantomo.com> (last visited Aug. 20, 2013).

196. *See* Securities Exchange Act of 1934 § 15(a)(1), 15 U.S.C. § 78o(a)(1) (2012). Section 3(a)(12) of the 1934 Act defines exempted securities, but the only unregistered securities listed are those that are primarily intrastate. *See id.* § 3(a)(12).

197. *Id.* § 3(a)(4)(A).

198. The 1934 Act definition of dealer is much narrower than the 1933 Act definition and likely not applicable here. *Compare id.* § 3(a)(5)(A) (defining a dealer as “any person engaged

also join a self-regulatory organization that helps ensure minimum conduct and quality standards.¹⁹⁹ This might even include employees of issuers (that is, licensing agents employed by portfolio companies), but the SEC provides several exemptions for employees.²⁰⁰

Given that many people do this today for other securities trading, the requirement is likely not too onerous, and should have at least some benefits relating to regulation of market participants. For example, brokers have an independent due-diligence requirement as participants in exempt private transactions.²⁰¹

2. *Fraud.* Even if a security is exempt from public-sale disclosure rules, securities law promotes information disclosure using rules that are currently unavailable in portfolio transactions. A primary purpose of the securities laws is to prevent fraud in the sale of securities.²⁰² The most well-known prohibition is Rule 10b-5,²⁰³ which outlaws manipulative and deceptive acts, such as untrue statements of material fact and omissions of material facts that would negate other misleading facts.²⁰⁴ This rule would benefit potential purchasers and licensees.²⁰⁵ For example, it would make failure to disclose known prior art a securities violation. It would also outlaw misstatements about prior licenses and royalties obtained, and other statements about the validity of patents in the portfolio. Some might argue that it

in the business of buying and selling securities . . . for [his] own account through a broker or otherwise”), with Securities Act of 1933 § 2(a)(12), 15 U.S.C. § 77b(a)(12) (defining a dealer as “any person who engages . . . directly or indirectly, as agent, broker, or principal, in the business of offering, buying, selling, or otherwise dealing or trading in securities issued by another person”).

199. Securities Exchange Act of 1934 §§ 15(a)(1), (b)(8); *see id.* § 15A(b)(6) (requiring, for example, that the “rules of the association are designed to prevent fraudulent and manipulative acts and practices”).

200. *See* 17 C.F.R. § 240.3a4-1 (2013).

201. FIN. INDUS. REGULATORY AUTH., REGULATORY NOTICE 10-22, REGULATORY D OFFERINGS: OBLIGATION OF BROKER-DEALERS TO CONDUCT REASONABLE INVESTIGATIONS IN REGULATION D OFFERINGS 3 (2010), available at <http://www.finra.org/web/groups/industry/@ip/@reg/@notice/documents/notices/p121304.pdf>.

202. *See, e.g., The Laws that Govern the Securities Industry*, U.S. SEC. & EXCHANGE COMMISSION, <http://www.sec.gov/about/laws.shtml> (last visited Aug. 20, 2013) (stating that one objective of the 1933 Act is to “prohibit deceit, misrepresentations, and other fraud in the sale of securities”).

203. 17 C.F.R. § 240.10b-5.

204. *Id.*

205. Section 11 of the 1933 Act would provide additional remedies for false statements in registration statements for public offerings. *See* Securities Act of 1933 § 11, 15 U.S.C. § 77k (2012).

should include disclosure of the patents in the portfolio in the first place.²⁰⁶

These are all benefits that are not provided under current regulatory schemes. They are not required under patent law, nor are they the types of activities that are considered anticompetitive, so long as the patentee does not believe the patent to be invalid.

Additionally, common-law fraud does not provide the same remedies. It is less stringent than securities laws.²⁰⁷ Also, securities fraud can travel with the patent, and common-law fraud cannot. In other words, if the original inventor committed a fraud, then downstream buyers could look to the inventor despite a lack of privity.²⁰⁸

Portfolio holders looking to sell or license their patents would likely object to these rules. However, they might use the law to their advantage; if licensees believe that they are seeing all of the portfolio's blemishes, they may be more willing to agree to enter license agreements. Thus, fraud rules can aid in market transactions.

3. *Insider Trading.* Related to reporting and fraud is insider trading, which is considered in some cases to also be a violation of Rule 10b-5.²⁰⁹ If the seller (or licensor) of the patent has knowledge about the patent that is otherwise not available to the public, then the

206. See Patterson, *supra* note 61, at 506–07 (“Barnes & Noble alleged that in their negotiations Microsoft initially refused to disclose which patents it claimed were being infringed unless Barnes & Noble agreed to a nondisclosure agreement. Then, when Microsoft filed a complaint . . . some of the patents it alleged were infringed were ones that it had not previously disclosed in the negotiations.” (footnotes omitted)).

207. *Herman & Maclean v. Huddleston*, 459 U.S. 375, 389 (1983) (“Indeed, an important purpose of the federal securities statutes was to rectify perceived deficiencies in the available common-law protections by establishing higher standards of conduct in the securities industry.”); *SEC v. Capital Gains Research Bureau, Inc.*, 375 U.S. 180, 194 (1963) (“[T]he doctrines of fraud and deceit which developed around transactions involving land and other tangible items of wealth are ill-suited to the sale of such intangibles as advice and securities, and . . . , accordingly, the doctrines must be adapted to the merchandise in issue.”); see also *Weston Instruments, Inc. v. Systron-Donner Corp.*, No. C-74-1099, 1978 U.S. Dist. LEXIS 15987, at *1, *6–7 (N.D. Cal. Aug. 16, 1978) (refusing to apply securities laws to patent-related fraud).

208. See *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723, 745 (1975) (“In today’s universe of transactions governed by the 1934 Act, privity of dealing or even personal contact between potential defendant and potential plaintiff is the exception and not the rule.”); *Cochran v. Channing Corp.*, 211 F. Supp. 239, 244 (S.D.N.Y. 1962) (reasoning that privity of contract was not required for a securities-fraud violation). Antitrust laws would be unlikely to reach an earlier wrongdoer as well.

209. *Chiarella v. United States*, 445 U.S. 222, 226–30 (1980).

seller (or licensor) would violate the law by transacting without disclosing that information.²¹⁰ Such information might be about early sales of the invention, which would invalidate the patent, for example.²¹¹ It might also include information about past licenses, which would narrow the pool of potential future licensees.²¹²

However, this type of insider trading is only actionable if there is some sort of fiduciary duty owed.²¹³ In the traditional case, employees owe a duty to investors, and thus may not trade on insider information.²¹⁴ Portfolio buyers and licensees are not usually investors in the seller's company. Thus, a general fiduciary duty may not apply, and when a license is negotiated at arm's length, withholding of information may not be actionable as insider trading. Then again, buyers and licensees would be investors in the portfolios. As a result, insider-trading rules may well apply.

B. Market Making

Treating patent portfolios as securities might aid the formation of markets by encouraging market clearinghouses for previously secret transactions, thus further encouraging the use of objective criteria to price such portfolios.

1. *Exchanges.* If a market were formed to trade portfolio securities, it would have to register as an exchange under the 1934 Act.²¹⁵ Such marketplaces are unlikely to form, however; despite the

210. See Dennis W. Carlton & Daniel R. Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857, 884 (1983) (“[S]ection 10(b) of the Security Exchange Act of 1934 and Rule 10b-5 . . . require corporate insiders and tippees either to disclose material inside information or to refrain from trading.”).

211. 35 U.S.C. § 102(b) (2006), amended by Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3(b)(1), 125 Stat. 284, 285 (2011).

212. Roy Strom, *Wi-Fi Case Sheds Light on Patent Trolls*, CHICAGO LAWYER (Apr. 1, 2013), <http://chicagolawyer.com/Archives/2013/04/Innovation-Patent-Trolls.aspx> (“For one, [Cisco’s counsel] said most of the patents that Innovatio is asserting were already licensed by Broadcom to a host of other companies. Because he believes they were previously licensed, Innovatio cannot try to collect that fee again, he said.”)

213. *Chiarella*, 445 U.S. at 230.

214. See, e.g., 17 C.F.R. § 240.10b5-1(a) (2013) (defining manipulative and deceptive acts to include “the purchase or sale of a security of any issuer, on the basis of material nonpublic information about that security or issuer, in breach of a duty of trust or confidence that is owed directly, indirectly, or derivatively, to the issuer of that security or the shareholders of that issuer”).

215. See Securities Exchange Act of 1934 § 3(a)(1), 15 U.S.C. § 78c(a)(1) (2012) (providing that a key aspect of an “exchange” is that it brings buyers and sellers together in one

goal of improved transactions, the type of marketplace envisioned by the securities laws is unlikely given that the underlying transactions must necessarily relate to some invented technology.²¹⁶ To the extent intermediaries aid transactions, they would likely do so as part of an over-the-counter market.²¹⁷ Even if such exchanges were formed, they might be eligible for an exemption due to low volume.²¹⁸

This is not to say that there can never be a type of portfolio exchange. At least one company is already attempting to create a type of exchange. Intellectual Property Exchange International (IPXI) was established to create transparent bidding on patent portfolios.²¹⁹ Every portfolio is vetted for validity, and similar patents are grouped together for licensing. Forty-one companies—including product companies, universities, and research labs—have provided patents for licensing via the clearinghouse.²²⁰ Licensees may bid openly on the portfolio, purchasing as many “units” of use as they may need.²²¹ These units can also be sold on a secondary market IPXI maintains. If patents in the portfolio are invalidated or upheld in litigation or patent reexamination, then the market price may adjust to reflect such facts. Because the license is for a fixed and exhaustible number of units, the IPXI licenses are more like commodities than securities.²²²

2. *Dark Pools and Clearinghouses.* Without exchanges, patent portfolio trading is another form of “dark pool.” A dark pool is a securities trade that is not viewed by the market; though pricing may

marketplace); *id.* § 5 (providing that it is illegal to operate an exchange without registration or an exemption).

216. See, e.g., *Bd. of Trade of Chi. v. SEC*, 923 F.2d 1270, 1272–73 (7th Cir. 1991) (holding that a computerized system was not an “exchange”).

217. See Therese H. Maynard, *What is an “Exchange?”—Proprietary Electronic Securities Trading Systems and the Statutory Definition of an Exchange*, 49 WASH. & LEE L. REV. 833, 902 (1992) (“[B]uying and selling interests meet on the exchange floor, in contrast to the [over-the-counter] market where buy and sell offers ‘come together only through dealers who interpose themselves between the parties’” (quoting *Bd. of Trade of Chi.*, 923 F.2d at 1274 (Flaum, J., dissenting))).

218. See 17 C.F.R. § 240.6a-1 (providing guidelines for filing an application for an “exemption from . . . registration based on limited volume”).

219. IPX Int’l, Presentation 2 (Nov. 14, 2012) (pitch book on file with the *Duke Law Journal*).

220. *Id.* at 5.

221. *Id.* at 13.

222. See Ian McClure, *The Value of IP as a Commodity*, INTELL. ASSET MGMT. MAG., May/June 2011, at 29, 31 (2011) (describing consumable licenses).

be determined by market transactions, the dark transaction is hidden from view.²²³ There are rational reasons why parties might want to hide transactions from the market, most notably that they do not want others to see their activity and drive prices up.²²⁴ Scholars have argued that the same activities are occurring in patent transactions.²²⁵

If patent portfolios are treated as securities, then they might be regulated like dark markets, with transactions handled by a clearinghouse similar to those of the Dodd-Frank Act.²²⁶ Such a clearinghouse would have all the drawbacks of increased regulation of financial transactions: additional costs, regulatory oversight, loss of confidentiality, and other issues.²²⁷ It might, however, provide an important benefit: easing the creation of a patent market, in which patent portfolios are purchased and licensed with greater certainty and reduced transactions costs.²²⁸

However, limitations on patent enforcement may create a potential barrier to market trading of patent portfolios. Patent law disallows patent licensing for invalid and/or noninfringed patents.²²⁹

223. Peter Kratz & Torsten Schoneborn, *Optimal Liquidation in Dark Pools 1* (Apr. 13, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1344583##.

224. Robert Hatch, *Reforming the Murky Depths of Wall Street: Putting the Spotlight on the Security and Exchange Commission's Regulatory Proposal Concerning Dark Pools of Liquidity*, 78 GEO. WASH. L. REV. 1032, 1034–35 (2010).

225. See Ewing & Feldman, *supra* note 67 (arguing that IV has purchased and licensed patents using more than twelve hundred shell companies).

226. See Eduard H. Cadmus, Note, *An Altered Derivatives Marketplace: Clearing Swaps Under Dodd-Frank*, 17 FORDHAM J. CORP. & FIN. L. 189, 213 (2012) (describing the requirement that swap transactions be cleared through an appropriate organization).

227. Interestingly, however, because portfolios themselves would be securities, they would not be considered “asset-backed” securities under 1933 Act registration requirements, and thus would avoid some more stringent reporting requirements. It is unclear whether a patent portfolio would meet either definition, but it would more likely meet the broader 1934 Act definition. Compare 17 C.F.R. § 229.1101(c) (2013) (defining “asset-backed securities” for Regulation AB registration), with Securities Exchange Act of 1934 § 3(a)(79), 15 U.S.C. §78c (2012) (defining “asset-backed securities” for the Dodd-Frank Act).

228. See Mark J. Roe, *Clearinghouse Overconfidence*, 101 CALIF. L. REV. (forthcoming 2013) (manuscript at 13), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2224305 (“In such informationally-opaque markets, spreads widen between the occasional trader’s buying price and another occasional trader’s selling price, with wide spreads profiting experienced, informed traders. . . . Because a clearinghouse with public pricing gives outsiders the same information as the regular traders, spreads narrow. Trading becomes less expensive.”).

229. See *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135 (1969) (disallowing enforcement of patents on noninfringing products); *Brulotte v. Thys Co.*, 379 U.S. 29, 32–33 (1964) (“[A] patentee’s use of a royalty agreement that projects beyond the expiration date of the patent is unlawful *per se*.”).

As such, licensees may argue that they need not pay the “market” price because they only infringe some of the patents in the portfolio.²³⁰ Technically, this is true with single-patent licenses.²³¹ However, this bar may be overcome by framing portfolio licenses as right-to-use licenses. Right-to-use terms would state that the fair market price includes not only payment for infringing products, but also the right to create new infringing products in the future, using patented inventions that are not currently infringed.²³²

How courts treat such terms will be critically important to portfolio licensing and, by extension, market formation. Licenses granting rights to only one or two patents have little or no value if the underlying patents are invalidated. Thus, right-to-use clauses will not be terribly helpful.

For large portfolios, however, even if many patents expire or are invalidated, the portfolio remains active. Portfolio owners would argue that such bundling is not a sham because the licensee obtains value for the remaining patents.²³³ Some might argue that the licensing

230. See, e.g., Patterson, *supra* note 61, at 506–07.

231. See *Zila, Inc. v. Tinnell*, 502 F.3d 1014, 1021 (9th Cir. 2007) (“[A] contract that provides for royalties either when a patent expires or when it fails to issue cannot be upheld unless it provides a discount from the alternative, patent-protected rate.”); *Meehan v. PPG Indus., Inc.*, 802 F.2d 881, 885–86 (7th Cir. 1986) (“Even when an inventor has not yet applied for a patent, the right to apply for and obtain those protections is valuable.”); *Boggild v. Kenner Prods.*, 776 F.2d 1315, 1319–20 (6th Cir. 1985) (explaining that a license must distinguish between patent and nonpatent royalties); *Pitney Bowes, Inc. v. Mestre*, 701 F.2d 1365, 1371–72 (11th Cir. 1983) (noting that *Brulotte* applies to hybrid agreements); *Span-Deck, Inc. v. Fab-Con, Inc.*, 677 F.2d 1237, 1247 (8th Cir. 1982) (noting that a hybrid license must differentiate between patent and nonpatent consideration); *Zenith Radio Corp.*, 395 U.S. at 139–40; *cf. Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 261–62 (1979) (holding that a royalty that decreases when a patent does not issue is enforceable); *Am. Securit Co. v. Shatterproof Glass Corp.*, 268 F.2d 769, 777 (3d Cir. 1959) (holding that package patent licensing is misuse if it is a sham).

232. See *Hull v. Brunswick Corp.*, 704 F.2d 1195, 1202–03 (10th Cir. 1983) (holding that the continuation of royalties under one patent after the expiration of a second patent is enforceable); *cf. Zila, Inc.*, 502 F.3d at 1021–22 (“This understanding, however, may well overread both *Brulotte* and *Aronson*, by glossing over the unique and onerous contractual restrictions at issue in *Brulotte* and relying on a sentence in *Aronson* that is really only dicta. . . . In short, were we writing on a clean slate, we might be inclined to read the dicta in *Aronson* as nonbinding in light of what appears on its face to be a very limited holding in *Brulotte*. By doing so, we would largely avoid attributing to the Supreme Court in *Brulotte* and *Aronson* the lack of economic logic laid at its feet. . . .”).

233. See *U.S. Philips Corp. v. Int’l Trade Comm’n*, 424 F.3d 1179, 1193 (Fed. Cir. 2005) (“[G]rouping licenses in a package allows the parties to price the package based on their estimate of what it is worth to practice a particular technology, which is typically much easier to calculate than determining the marginal benefit provided by a license to each individual patent.”).

value for noninfringed right-to-use patents must be minimal,²³⁴ but this is a question of pricing, as discussed below. Concerns about portfolio licensing are not unlike similar concerns about copyright package licensing. Opponents considered blanket music licenses from the American Society of Composers, Authors and Publishers (ASCAP) to be a form of price fixing, but the Supreme Court disagreed.²³⁵ Today, such licenses are considered not only efficient, but also an indispensable way to avoid ongoing conflict.²³⁶

The rule that one may not license an invalid or noninfringed patent affects portfolio licensing in a few ways. First, small portfolios might need to be supplemented as patents are invalidated or expire to ensure that the number of patents in the license remains reasonable. This creates an incentive for portfolio owners to take up-front fees and to avoid supplementing, leading to a difficult choice between license scope and future portfolio growth. Second, portfolios must nominally relate to similar technology. As the type of technology diversifies away from one technology, the argument that a license is being made for a right-to-use becomes less credible. The problem is that a technology focus reduces the investment diversification of the portfolio as well. Thus, the investment becomes more subject to systemic risk relating to the technology. As discussed above, the goal of the portfolio owner is to diversify technology as much as possible while still attracting licensees. A legal rule that requires too much focus hinders that diversification. As a result, the rule creates a difficult choice between diversification and size.

This particular enforcement problem only affects *licensing* markets. Patent *buyers* may purchase as many diverse patents as they wish, and place them into different licensing pools as they see fit.

234. See Patterson, *supra* note 61, at 510–11 (“A patentee . . . is not justified in insisting upon continued licensing of an invalid or non-infringed patent.”).

235. See *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 24–25 (1979) (holding that ASCAP’s blanket license was not per se illegal and remanding the case to determine whether the license was illegal under rule-of-reason analysis).

236. See *id.* at 20–21 (“Most users want unplanned, rapid, and indemnified access to any and all of the repertory of compositions, and the owners want a reliable method of collecting for the use of their copyrights. Individual sales transactions in this industry are quite expensive, as would be individual monitoring and enforcement, especially in light of the resources of single composers. . . . A middleman with a blanket license was an obvious necessity if the thousands of individual negotiations, a virtual impossibility, were to be avoided.”). *But see* Michael A. Einhorn, *Intellectual Property and Antitrust: Music Performing Rights in Broadcasting*, 24 COLUM.-VLA J.L. & ARTS 349, 350–51 (2001) (stating that concerns about anticompetitive licenses continue).

3. *Security Pricing*. If portfolios are treated as securities, then more efficient portfolio pricing may be the most important requirement to reducing transactions costs and forming a market.²³⁷ As portfolios grow, then lowering pricing costs may be preferable to completely accurate pricing.²³⁸ The benefits of efficient portfolio-pricing techniques will apply even if portfolios are not securities, but treating portfolios as securities would hasten implementation.

Of course, securities laws are not necessary for these pricing methods, but they can help. Information disclosure rules can aid in providing information about portfolio composition. Clearinghouses can provide transparency about past pricing. And, perhaps most importantly, a culture of trading can encourage the use of better pricing techniques.

In the traditional economic analysis, efficient market prices are set by the intersection of those willing to pay a certain price and those willing to sell at a certain price. This is what we might call the fair or market-clearing price. Stocks are usually considered to be priced this way, even if the participants do not have complete information. Indeed, patents are often valued based on their selling prices.²³⁹

Thus, when all the rights to a patent portfolio are sold, the pricing should approach what we might think of as market-clearing prices. Buyers and sellers will have independent, arm's-length beliefs about the value of the portfolio. As such, the set price can be considered fair, even if the price does not reflect the "true" value of

237. See Kramer, *supra* note 10, at 466 ("Endeavoring to evaluate dozens or potentially hundreds of patents that might be relevant in a significant business decision is impractical and generally fails to consider the context and interactions of the market. Thus, an efficient yet accurate means of patent valuation is needed to facilitate the inquiry." (footnote omitted)); Meeks & Eldering, *supra* note 6, at 195–96 ("No agreed-upon patent valuation technique current exists. Consequently . . . the market remains largely inefficient, illiquid, and opaque."); cf. Gene Quinn, *Chief Judge Rader: "We Need To Tolerate a Little Injustice,"* IPWATCHDOG (Oct. 4, 2011, 11:30 AM), <http://www.ipwatchdog.com/2011/10/04/chief-judge-rader-we-need-to-tolerate-a-little-injustice/id=19544> (debating the merits of case-by-case damages analysis versus efficient but potentially unjust rules of thumb).

238. See Meeks & Eldering, *supra* note 6, at 205–06 ("[I]n the mergers and acquisitions context involving hundreds, if not thousands, of patents and a time constraint of two to three weeks to conduct due diligence, thorough claim analysis proves virtually impossible. . . . The inability to quickly and accurately value patents undoubtedly creates a significant challenge for technology-focused firms and those responsible for their patent portfolio management. One practitioner stated that he is fairly confident that no one has solved this problem yet, and he believes that companies essentially trade accuracy for speed in M&A deals involving a relatively large number of patents.").

239. 34 AM. JUR. 2D *Federal Taxation* § 42,044 (2013).

the asset. This is little different from how stocks are priced; stocks might be purchased for more than the company is “worth” based on its expected revenue streams. This is not a bug in the system, but a feature. Sometimes, people pay more than they should in a market transaction, and those who overpay might lose money when the price falls.

A big difference, of course, is that licensees must purchase or face litigation. However, if accurate pricing methodologies are developed, then the tradeoff between litigation and a market-clearing price should be achievable. Another big difference is that portfolios must be priced as a whole; attempts to separately debate and price every patent in the portfolio will increase transaction costs and likely lead to failed transactions.²⁴⁰

Unfortunately, full information and pricing methodologies are often unavailable, which creates a real problem in the market.²⁴¹ Furthermore, reforms to the litigation system to bring damages in line with the actual value of patents and to reduce the cost of litigation would be helpful. Litigation reforms are beyond the scope of this Article. The goal here, therefore, is to explore methods for relatively accurate pricing with the information available to market participants, regardless of what that information might be. This may be more possible than many think. After all, much more information is available about privately traded patents—for those willing to do the research—than about many private companies selling stock.²⁴²

240. See Patterson, *supra* note 61, at 508–09 (“[G]rouping licenses in a package allows the parties to price the package based on their estimate of what it is worth to practice a particular technology, which is typically much easier to calculate than determining the marginal benefit provided by a license to each individual patent.” (quoting U.S. Philips Corp. v. Int’l Trade Comm’n, 424 F.3d 1179, 1193 (Fed. Cir. 2005))).

241. See Lemley & Myhrvold, *supra* note 3, at 257 (“Patents . . . exist in just such a blind market. Want to know if you are getting a good deal on a patent license or technology acquisition? Too bad. Even if that patent or ones like it have been licensed dozens of times before, the terms of those licenses, including the price itself, will almost invariably be confidential.”); Meeks & Elderling, *supra* note 6, at 205 (“Virtually all [in-house counsel] interviewees lamented the fact that no coherent valuation technique exists.”); Nikolic, *supra* note 3, at 409 (“The absence of a regulated market creates a lack of liquidity, making investments less attractive to investors and providing less transparency for investors.”); Patterson, *supra* note 61, at 508–09 (“[I]f a patentee insists on licensing its portfolio as a whole, without identifying which particular patents are infringed or what the royalty for licensing them individually would be, a licensee is unable to make the determinations that are necessary for sensible decision making in the licensing process.”).

242. See John E. Dubiansky, *An Analysis for the Valuation of Venture Capital-Funded Startup Firm Patents*, 12 B.U. J. SCI. & TECH. L. 170, 175 (2006) (“In fact, there is much more information available on patent transactions than for many other aspects of the venture capital

Further, if portfolios are sold in public offerings, then information about them would be required in a registration statement as is required with publicly traded stock.

a. Pricing Based on Past Licensing. The best way to price a portfolio is to use past licenses of the same patent or portfolio.²⁴³ Absent that, licenses of comparable patents and portfolios might be used. However, using actual negotiated prices can be problematic. Such data is difficult to find because it is kept secret.²⁴⁴ Further, when licenses are made public, they often omit information.²⁴⁵ As patents become traded like commodities more often, the secrecy concern may diminish. That is because brokers who have experience in multiple licensing transactions can bring experience to bear on later negotiations.²⁴⁶

Even armed with data, however, licenses of comparable patents may not be helpful.²⁴⁷ Use of comparable licenses assumes that similar patents (or even licenses of the same patent) can be treated similarly. This may not always be true.²⁴⁸ For example, the products associated with the patents may be priced differently, making royalties incomparable.

Further, because portfolios are licensed to potential infringers, the portfolio owner has significantly more leverage to use against the licensee; the portfolio owner can sue for damages or an injunction.

industry.”); Kelley, *supra* note 1, at 131–32 (describing the ways that patents provide information).

243. See Meeks & Eldering, *supra* note 6, at 203.

244. Kramer, *supra* note 10, at 469; Lemley & Myhrvold, *supra* note 3, at 257.

245. Jonathan A. Barney, *A Study of Patent Mortality Rates: Using Statistical Survival Analysis To Rate and Value Patent Assets*, 30 AIPLA Q.J. 317, 323 (2002).

246. See Kelley, *supra* note 1, at 121 (asserting that 75 percent of transactions are through brokers); Meeks & Eldering, *supra* note 6, at 205 (“According to another practitioner, as brokers have done an increasing number of deals, some increasingly rely on their databases to set proposed prices for patents based on (1) the technology area and (2) the mean value of patent prices in that technology area.”).

247. See Lemley & Shapiro, *supra* note 61, at 2022 (arguing that royalties in publicly disclosed licenses are larger than royalties in general because only “material” licenses are reported under SEC rules), Meeks & Eldering, *supra* note 6, at 202 (explaining that “identifying values of comparable patents sold or licensed in the market place” is not that helpful for valuing patents because of the “confidentiality surrounding the majority of patent transactions”).

248. See Kelley, *supra* note 1, at 130 (“Mandatory disclosure, however, is unlikely to be effective in reducing transaction costs in this marketplace, because it rests on the questionable premise that other patent transactions about which information is disclosed are readily ‘comparable’ and therefore will reliably determine an appropriate value in a practitioner’s current transaction.”).

This leverage increases as the size of the portfolio grows.²⁴⁹ As such, negotiated payments may overstate portfolio value.

This overstatement is mitigated by a couple of countervailing factors. First, potential licensees do not blindly accept arrangements. Instead, portfolio owners usually present the patents in the portfolio that they think the potential licensee most likely infringes. Indeed, a good portfolio will often have patents related to different technologies, and the licensees may not want or need all of those patents.²⁵⁰ Large corporations often do the same thing when cross-licensing patent portfolios and the parties are negotiating a “balance payment,” which is the amount one party pays to the other so that each side contributes equal value.²⁵¹ Similarly, standards-setting organizations require members to license the portfolio of patents contributed by that member.²⁵²

Second, potential licensees can always refuse to pay for a license if the price is too high. Portfolio owners cannot realistically sue on more than a few patents at a time, and they cannot sue more than one defendant at a time in a single action.²⁵³ Additionally, with every litigated challenge, there is a risk that a patent will be invalidated, which may reduce the portfolio value, especially given the nonjoinder rules that give each defendant a defense in front of a different court. Thus, portfolio owners have some incentive to charge less than they otherwise might attempt. Of course, large portfolios make it more difficult to challenge any particular patent, because there are several more to follow even if any given patent is invalidated.²⁵⁴

249. Parchomovsky & Wagner, *supra* note 4, at 35–36; Patterson, *supra* note 61, at 504.

250. See Parchomovsky & Wagner, *supra* note 4, at 41 (“One important insight into the dual-form benefits of patent portfolios (scale and diversity) is that substantial tension exists between these two goals. That is, as noted above, effective patent portfolios are both sizable—covering an expanse of closely-related subject matter—and diverse—composed of distinct individual patents, thus diminishing the importance of any specific patentable subject matter. Yet maximizing one dimension will degrade the other.”).

251. See, e.g., Nilay Patel, *Intel Agrees To Pay NVIDIA \$1.5b in Patent License Fees, Signs Cross-license*, ENGADGET (Jan. 10, 2011, 5:07 PM), <http://www.engadget.com/2011/01/10/intel-agrees-to-pay-nvidia-1-5b-in-patent-license-fees-signs-c>.

252. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION, POL’Y, & ECON. 119, 128 (Adam B. Jaffe, Josh Lerner & Scott Stern eds., 2001).

253. See 35 U.S.C. § 299 (Supp. V 2011) (limiting joinder of defendants).

254. See Steven C. Carlson, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 359, 386–87 (1999) (arguing that patent portfolios can shield weak patents); Jean O. Lanjouw & Mark Schankerman, *Protecting Intellectual Property Rights: Are Small Firms Handicapped?* 47 J.L. & ECON. 45, 45 (2004) (finding that firms with large portfolios litigate less than firms with

In any event, data is likely not available to efficiently price portfolios based on existing pricing.

b. Royalty- and Cost-Stream Pricing. Another potential pricing strategy stems from traditional stock pricing. Share pricing is typically theorized as the net present value of all the expected revenues to the company.²⁵⁵ Indeed, some have suggested a similar method to value patents.²⁵⁶ For patents, buyers would consider the stream of royalties they would pay or the stream of costs to defend infringement suits.²⁵⁷

Though more data would be available for this pricing method, it also suffers from difficulties. The stream of costs would be based in large part on threats by the patent holder rather than the patent's value. Additionally, such costs would be subject to the same asymmetric leverage that biases existing licenses. Even without leverage, the price will be different based on the potential product configurations of licensees. As a result, as portfolios become larger and more complex, defining a single valuation might be more difficult.²⁵⁸

smaller portfolios); Lemley & Shapiro, *supra* note 16, at 82 (“If the holder of a large patent portfolio asserts its patents against another company and claims that the other company is infringing dozens or even hundreds of its patents, the target company faces a very complex and costly undertaking if it chooses to fight all of those patent infringement claims in court, knowing that it has to win all or nearly all of the individual patent cases to avoid [payment]”); Parchomovsky & Wagner, *supra* note 4, at 66 (“Yet, in many cases, the invalidation of one of the patents in a portfolio might not have a dramatic effect on the overall value.”); Patterson, *supra* note 61, at 504 (discussing the competitive advantage of large portfolios due to the increased cost and difficulty of assessing infringement).

255. See Stephen P. Baginski & James M. Wahlen, *Residual Income Risk, Intrinsic Values, and Share Prices*, 78 ACCT. REV. 327, 328 (2003); cf. Meeks & Eldering, *supra* note 6, at 232–33 (suggesting a method for calculating net present value discount rate for patents).

256. See Robert S. Bramson, *Valuing Patents, Technologies and Portfolios: Rules of Thumb*, in HANDLING INTELLECTUAL PROPERTY ISSUES IN BUSINESS TRANSACTIONS 2001, available at 635 PLI/PAT 465, 469–70 (1999) (valuing patents based on present value of royalties less litigation expenses); Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 639–41 (2002) (presenting a model of patent value that includes expected stream of rents, including signaling information about the company obtaining a patent); Meeks & Eldering, *supra* note 6, at 202; Nikolic, *supra* note 3, at 404 (suggesting that only patents with defined cash flow can be securitized).

257. Bramson, *supra* note 256, at 469–70; see also GORDON V. SMITH & RUSSELL L. PARR, VALUATION OF INTELLECTUAL PROPERTY AND INTANGIBLE ASSETS 222–24 (3d ed. 2000) (describing the relief from royalty approach to valuation).

258. See Kramer, *supra* note 10, at 464 (“Accurate assessment can be cumbersome in more complex transactions, such as significant cross licensing negotiations. Such deals can involve multiple patents of various magnitudes, perhaps covering disparate technologies, and sometimes uncertain commercial applications.”).

Nonetheless, pricing based on potential future royalties is alluring because it is based on real costs and benefits. Use of this method should be based in part on realistic expectations of damages if there were litigation.²⁵⁹ This implies that efficient pricing of securities is most likely to be achieved when there is a better definition of expected damages in court. If the parties cannot agree on a reasonable damages calculation, then they will have difficulty agreeing on a likely stream of such damages in case of litigation. If the parties can agree, they can make adjustments for the likelihood that at least one patent will be valid and infringed,²⁶⁰ which might, in turn, be based on the litigation history of patents in the portfolio or other objective indicia, discussed below.²⁶¹ Further, use of the method should include financially sound calculations of discount rates to adjust expected future royalties for risk that the patent's value will decrease over time.²⁶²

Related is the option-pricing method.²⁶³ In this method, a patent license represents the ability to exploit the patent in the future, just as a stock option represents the ability to purchase a share of stock in the future.²⁶⁴ The dominant method for pricing options, the Black-Scholes formula, considers a stock's price volatility.²⁶⁵ Option pricing is difficult for individual patents because the volatility of a patent's price is usually unknown.²⁶⁶ Even so, the model for pricing options

259. See Meeks & Eldering, *supra* note 6, at 222 (suggesting that potential patent damages are the touchstone for calculating future royalty payments).

260. *Id.* at 232.

261. Michael J. Mazzeo, Jonathan Hillel & Samantha Zyontz, Predicting the "Unpredictable": An Empirical Analysis of U.S. Patent Infringement Awards 3 (Oct. 21, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2164787 (finding that objective patent criteria predict 75 percent of infringement damages awards).

262. See, e.g., Meeks & Eldering, *supra* note 6, at 223–31 (suggesting a method for calculating market volatility for determination of discount rate under the capital asset pricing model).

263. See generally ROBERT PITKETHLY, THE VALUATION OF PATENTS: A REVIEW OF PATENT VALUATION METHODS WITH CONSIDERATIONS OF OPTION BASED METHODS AND THE POTENTIAL FOR FURTHER RESEARCH (1997); Nicholas Bloom & John Van Reenen, *Patents, Real Options, and Firm Performance*, 112 ECON. J. C97 (2002).

264. Denton & Heald, *supra* note 9, at 1195.

265. Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637, 638–39 (1973); Denton & Heald, *supra* note 9, at 1199; Robert C. Merton, *Theory of Rational Option Pricing*, 4 BELL J. ECON. & MGMT. SCI. 141, 148 (1973).

266. Meeks & Eldering, *supra* note 6, at 202. Additionally, the formula relies on some assumptions about stock pricing—such as a normal distribution—that may not hold true for patent pricing. See Denton & Heald, *supra* note 9, at 1203–04 (discussing difficulties of option

might give some clues about how to think about pricing an entire portfolio based on objective and observable indicators of value.²⁶⁷

Some have proposed a patent valuation based on profits associated with manufacturing a product.²⁶⁸ This method, though reasonable, is unlikely to be applicable in the patent-securities setting for all but the most expansive of patents. Because most patents cover incremental innovation, it is rare that a patent (or even a portfolio) will be associated with specific profits for a unique product.²⁶⁹ Of course, pharmaceutical or pioneering mechanical patents may grant such rights, in which case the value of profits from the product might far exceed the costs of avoiding royalties or litigation costs.

c. Objective Indicator Pricing. Thus, it would be helpful to find a way to value a patent portfolio for licensing or for sale when there is no recent sale of similar portfolios. Ideally, such valuation would be based on objectively measurable criteria,²⁷⁰ which is contrary to how pricing has traditionally worked.²⁷¹ Such a model must also provide reasonable estimates, rather than guesses.²⁷²

pricing); *cf.* NASSIM NICHOLAS TALEB, *THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE* 279 (2d ed. 2007) (criticizing assumptions of the Black-Scholes pricing formula).

267. *See, e.g.*, Ming-Cheng Wu & Chun-Yao Tseng, *Valuation of Patent—A Real Options Perspective*, 13 *APPLIED ECON. LETTERS* 313, 316 (2006) (using citations as a proxy for patent value to calculate option price).

268. *See, e.g.*, SMITH & PARR, *supra* note 257, at 224–27.

269. *See* Dubiansky, *supra* note 242, at 174 (“For an investor in a startup firm, the *Relief from Royalty* approach is more helpful because it best approximates the resale value of the patent. This approach analogizes the patent asset to a piece of production equipment.”).

270. *See* Denton & Heald, *supra* note 9, at 1177 (“We conclude that an adequate patent pricing metric must combine probabilistic methods familiar to experts in mathematical finance, quantum mechanics, and statistical climatology, with the strategic assumptions familiar to game theorists.”); Kelley, *supra* note 1, at 126 (“As such, the industry has developed multiple tools and rating systems, both custom and off-the-shelf, to facilitate evaluations based on [objective] factors.”); Kramer, *supra* note 10 (proposing econometric valuation of patents based on patent characteristics); *see also, e.g.*, John R. Allison, Mark A. Lemley, Kimberly A. Moore & Derek R. Trunkey, *Valuable Patents*, 92 *GEO. L.J.* 435, 437–38 (2004) (describing criteria used to compare valuable patents with other patents); Maayan Filmar, *An Ex Ante Method of Patent Valuation: Transforming Patent Quality into Patent Value*, 13 *J. HIGH TECH. L.* (forthcoming 2013) (manuscript at 45–52, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2252251 (describing several objective measures of patent valuation)).

271. Landers, *supra* note 7, at 165 (“As a practical matter, under current patent valuation principles, a patent’s worth is dependent on a constellation of factors. These include the business context of the products that relate to the invention, the state of technological progress, and anticipated commercialization opportunities.”); *id.* at 167 (“Moreover, it is questionable whether patent valuation can be credibly performed without some reliance on the market as a touchstone.”); *see also* Bramson, *supra* note 256, at 475 (setting \$5 million as the minimum value for any portfolio); Kelley, *supra* note 1, at 125 (describing claims charts as the most important

It may seem strange to consider the value of the portfolio when one cannot calculate the value of any individual patent in it. However, because a portfolio tends to minimize the impact of any one patent through the law of large numbers,²⁷³ statistical tools may be better at calculating the value of a portfolio than previously expected.²⁷⁴ For example, economists have been estimating the value of all patents in a country or technology area for some time;²⁷⁵ the same methodology might apply to large portfolios. Furthermore, pricing a portfolio is likely cheaper and easier than examining every patent in it.²⁷⁶

Comparing observable information is unlikely to yield value information for individual patents. Two patents may have identical citations, but may have vastly different values based on technology and other, less measurable aspects of the patent. Indeed, the most detailed valuation studies at the individual level only rank patents in value as compared with others.²⁷⁷ On the other hand, if a general

factor in valuation); Meeks & Eldering, *supra* note 6, at 197 (measuring patent value based on “the scope of the patent’s claims . . . the products or services covered by the patent’s claim . . . and the economic benefit associated with the product or service”); Scott D. Phillips, *Patent & High Technology Licensing: Evaluation of Patent Portfolios*, in PATENT & HIGH TECHNOLOGY LICENSING, available at 652 PLI/PAT 57, 67 (2001) (“What technical areas does the portfolio address? How much in a given subject area is covered by patent claims? What problems do the patents really solve? How important are the patents to others or to industry standards? Who else is in the field, and how significant of an industry player are they? What alternatives to licensing exist?”).

272. See, e.g., Richard A. Neifeld, *A Macro-Economic Model Providing Patent Valuation and Patent Based Company Financial Indicators*, 83 J. PAT. & TRADEMARK OFF. SOC’Y 211, 213 (2001) (purporting to assign value to every U.S. patent). Neifeld’s results seem disconnected from reality, assigning a value of \$1.6 million to a bathtub patent and \$4.7 million to a clamp patent. These calculations seem out of touch with the nearly universal finding that most patents are not worth anything. See, e.g., Parchomovsky & Wagner, *supra* note 4, at 52.

273. See Parchomovsky & Wagner, *supra* note 4, at 6 (“Rational firms will therefore typically seek to obtain a large quantity of related patents, rather than evaluating their individual worth.”).

274. See Kramer, *supra* note 10, at 467 (“The efficiency of the analytical methodology makes it particularly well suited to the management of patent portfolios.”).

275. See generally, e.g., Griliches et al., *supra* note 6; Mark Schankerman & Ariel Pakes, *Estimates of the Value of Patent Rights in European Countries During the Post-1950 Period*, 96 ECON. J. 1052 (1986); Mark Schankerman, *How Valuable is Patent Protection? Estimates by Technology Field*, 29 RAND J. OF ECON. 77 (1998).

276. See Parchomovsky & Wagner, *supra* note 4, at 64 (suggesting that portfolio licensing will reduce transaction costs in part by obviating the need to examine and/or license individual patents).

277. Allison et al., *supra* note 270, at 448–60; Kramer, *supra* note 10, at 481; Jean O. Lanjouw & Mark Schankerman, *The Quality of Ideas: Measuring Innovation with Multiple*

model is developed that can separate valuable patents from nonvaluable patents, then a large portfolio can be filtered into groups of valuable and nonvaluable patents.²⁷⁸ Thus, ranking value may be preferable to no information at all, but such ranking may not be sufficient for market pricing of an individual patent.²⁷⁹

i. Forward Citations. There are a few clues that imply a patent's potential worth as part of the portfolio. The first is the number of times the patent is cited by other patents; this is often called forward citations. In general, more valuable patents appear to be cited more than other patents.²⁸⁰ Furthermore, they are cited by others much further into the future than the average patent.²⁸¹ This makes intuitive sense; one would expect more important patents to be cited by others.²⁸² Thus, one study found that counting citations after five years is sufficient to measure initial expectations about a patent's quality, but longer-term citations show unexpected increases in patent value over time (a long tail).²⁸³ One study even found (perhaps counterintuitively) a U-shape distribution, with value peaking and

Indicators 11 (Nat'l Bureau of Econ. Research, Working Paper No. 7345, 1999), available at <http://www.nber.org/papers/w7345>.

278. Piotr Masiakowski & Sunny Wang, *Integration of Software Tools in Patent Analysis*, 35 WORLD PAT. INFO. 97 (2013) (describing tools for textual analysis of patent portfolios).

279. *But see* Barney, *supra* note 245, at 330–32. Barney uses maintenance renewal rates to create a range of values for all patents. He then argues that patents ranked by quality can be placed somewhere on that range to obtain a value. However, this method is based on some fairly tenuous assumptions about the distribution of patent values.

280. Allison, et al., *supra* note 270, at 455; Kramer, *supra* note 10, at 475–76; Lanjouw & Schankerman, *supra* note 277, at 10; *see* Cristina Odasso, Giuseppe Scellato & Elisa Ughetto, *Selling Patents at Auction: An Empirical Analysis of Patent Value* 15 (July 10, 2013) (unpublished manuscript) (finding that forward citations correlate with higher auction prices), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2291874. Such references should be normalized by the age of the patent. Kramer, *supra* note 10, at 485.

281. Kramer, *supra* note 10, at 478; Adam Jaffe & Manuel Trajtenberg, *International Knowledge Flows: Evidence from Patent Citations* 5 (Nat'l Bureau of Econ. Research, Working Paper No. 6507, 1999).

282. *But see* Meeks & Eldering, *supra* note 6, at 203–04 (arguing that backward citations measure the quality of disclosure, but not the scope of claims). As discussed below, this concern can be addressed by considering the interaction of citations and claims.

283. Lanjouw & Schankerman, *supra* note 277, at 14–15; *see also* Bronwyn Hall, Adam Jaffe & Manuel Trajtenberg, *Market Value and Patent Citations: A First Look*, 36 RAND J. ECON. 16, 18–19 (2005) (finding that stock market values reflect future patent citations from that time and thus reflect changes in patent valuation); Gregory P. Daines, *Patent Citations and Licensing Value* 60 (June 2007) (unpublished MBA thesis, Massachusetts Institute of Technology), available at <http://dspace.mit.edu/bitstream/handle/1721.1/39530/173993864.pdf?sequence=1> (confirming that forward citation counts contain information on the private licensing value of patents).

then receding as the number of citations increases.²⁸⁴ For purposes of valuation, however, the distribution shape is irrelevant so long as it is predictive of value in some sense.

One problem with using forward citations, however, is that they are only telling in hindsight. Older patents will necessarily have had a chance to accumulate whatever citations they might garner, whereas newer patents are uncertain. This can have the dual effect of increasing pricing uncertainty of new patents as well as skewing their value lower. As noted above, this effect may diminish within the first five years, though such estimates necessarily trim the so-called long tail.

ii. Backward Citations. Another potential clue is the number of other patents that the patent at issue cites. This is often called references or backward citations. The results here are a bit murkier. Intuitively one would expect that the more references a patent makes, the more likely it is to be valid. On the other hand, patents are often invalidated based on nonpatent prior art, such that patent references are less indicative of value. Some studies have found the number of references to be statistically representative of value,²⁸⁵ but other measures in the same studies refute this finding.²⁸⁶ One study found that the number of references was not statistically different between valuable patents and the general population.²⁸⁷ Indeed, another study found that, as compared with once-litigated patents, heavily litigated patents are much less likely to win in court, despite having more references.²⁸⁸ This undermines the use of backward citations for

284. David S. Abrams, Ufuk Akcigit & Jillian Popadak, *Understanding the Link Between Patent Value and Citations: Creative Destruction or Defensive Disruption?* 1 (Apr. 8, 2013) (unpublished manuscript), available at <http://www.kentlaw.iit.edu/Documents/Academic%20Programs/Intellectual%20Property/PatCon3/abrams.pdf>.

285. *E.g.* Allison et al., *supra* note 270, at 449, 453–55; *see* Lanjouw & Schankerman, *supra* note 277, at 10 (finding that references were statistically significant for all types of patents, but were better quality indicators for drug and chemical patents).

286. *See* Lanjouw & Schankerman, *supra* note 277, at 16 (finding that backward references did not affect the probability that maintenance fees would be paid on the patent).

287. Kramer, *supra* note 10, at 477. Kramer finds that essential patents (for technology standards) tend to cite newer prior art than does the average patent. *Id.* at 478. This cuts both ways. It implies, as Kramer argues, that essential patents are timelier. But it may also imply that such patents are more obvious.

288. *See* John R. Allison, Mark A. Lemley & Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 681, 686–87 (2011) (noting that most-litigated patent plaintiffs won only 10.7 percent of suits as compared with 47.3 percent of once-litigated patent plaintiffs).

valuation. These criticisms of backward citations are unsurprising, given evidence that patent examiners simply do not read references cited by patent applicants.²⁸⁹

iii. Originality and Generality. Two other citation measures that may prove helpful are originality and generality.²⁹⁰ Originality measures the technological breadth of backward references.²⁹¹ The wider the breadth, the more likely the patent is considered new; the narrower the breadth, the more likely the patent is incremental to one specific field.²⁹² Generality measures the technology distribution of forward citations—patents citing the patent at issue.²⁹³ The broader the distribution of technology that relies on the patent, the more general and valuable the original patent might be. For example, the forward citations for physicist William Shockley’s transistor patent²⁹⁴ are quite general, spanning many different fields. Some studies have found that more valuable patents have both more originality and more generality as compared with the average patent, including the average patent in the same technology field.²⁹⁵

iv. Number of Patents. Whereas a simple count of patents should not be enough to price a portfolio, ignoring the number of patents would ignore economic reality. Quite simply, the larger the portfolio, the more valuable it will be, even if the individual patents have relatively low value.²⁹⁶ However, size must be combined with breadth of technology and quality. If the portfolio is large, but spotty and

289. See Christopher A. Cotropia, Mark A. Lemley & Bhaven Sampat, *Do Applicant Patent Citations Matter?*, 42 RES. POL’Y 844, 844 (2013) (“We find, to our surprise, that patent examiners did not use applicant-submitted art in the rejections that narrowed claims before these patents issued, relying almost exclusively on prior art they find themselves.”).

290. See Manuel Trajtenberg, Rebecca Henderson & Adam B. Jaffe, *University Versus Corporate Patents: A Window on the Basicness of Invention*, in ADAM B. JAFFE & MANUEL TRAJTENBERG, PATENTS, CITATIONS & INNOVATIONS: A WINDOW ON THE KNOWLEDGE ECONOMY 60, 63 (2002) (defining generality and originality).

291. *Id.* at 63.

292. *Id.*

293. *Id.* at 60.

294. U.S. Patent No. 2,569,347 (filed June 26, 1948).

295. Kramer, *supra* note 10, at 479–80.

296. See, e.g., Alfonse Gambardella, Professor of Corporate Mgmt., Bocconi Univ., Presentation to the OECD Conference on Patent Practice & Innovation, The Value of Patent Portfolios: Numbers vs Average Quality 20 (May 10, 2012), available at <http://www.oecd.org/sti/innovationinsciencetechnologyandindustry/workshop-patent-practice-and-innovation-Gambardella.pdf> (showing the role of number of patents in portfolio value).

weak, then it will not be as valuable as a focused and strong portfolio.²⁹⁷ Similarly, if the portfolio is too narrow, then a large size may not provide sufficient coverage.²⁹⁸ Thus, any pricing method should include an objective measure of both size and breadth.

d. Patent Claims as Indicators. Some studies have found the number of claims relevant to value.²⁹⁹ Counting claims has an ambiguous connection to value. Although one study implies that more claims are associated with expected quality,³⁰⁰ that same study shows that the number of claims is unrelated to the probability that maintenance fees were paid.³⁰¹ Failure to pay maintenance fees causes a patent to expire early, and is the best indicator of the owner's belief (or lack thereof) in its value.³⁰² The study shows, therefore, that economic value is not correlated with the number of claims. Another study shows a negative correlation, finding that some patents with more claims are more likely to be invalidated.³⁰³

Despite the ambiguities associated with claim counts, it is unlikely that any pricing formula that excludes claim information would be accepted.³⁰⁴ Thus, some objective, measurable method of analyzing claims must be available in pricing formulas.³⁰⁵

One potential way to use claims is to measure the ratio of backward references and forward citations per claim. One study showed that an increasing number of backward references for each claim implied lower quality, whereas increasing forward citations per claim implied increased quality.³⁰⁶ The implication is that patents with few claims but many references are incremental. Nonetheless, if a

297. See Parchomovsky & Wagner, *supra* note 4, at 41 (“But such an atomized portfolio would be relatively ineffective in size-terms because of the significant gaps in subject matter coverage between constituent patents, creating what might be called a ‘swiss cheese effect.’”).

298. *Id.*

299. Lanjouw & Schankerman, *supra* note 277, at 10.

300. *Id.*

301. *Id.* at 16.

302. Cf. Schankerman, *supra* note 275 (valuing patents by renewal rate).

303. Allison et al., *supra* note 288, at 681, 706.

304. See Meeks & Eldering, *supra* note 6, at 205 (“All [interviewed in-house counsel], however, believed that the only true measure of a patent’s value comes only after analyzing a patent’s claims.”).

305. See *id.* (“Interestingly, the co-founder of an intellectual property analytics company shared this same view. He suggested that one can employ highly quantitative measures coupled with sophisticated algorithms to develop proxies for value.”).

306. Lanjouw & Schankerman, *supra* note 277, at 10–11.

patent with few claims is cited by many others, then that patent is more likely to be important.

In any event, patents with more claims are more likely to be litigated,³⁰⁷ which may indicate an increased value to buyers or potential licensees, even if not related to the underlying technology's value. As a result, a portfolio with many claims may command a higher price, regardless of patent quality. This counterintuitive result is not without support. In fact, one theory suggests that as the value of each individual patent falls, we should expect to see larger and larger patent portfolios (which will necessarily have more claims in the aggregate).³⁰⁸

Perhaps a better measure of value would be counting claim *elements*, rather than claims.³⁰⁹ To be invalidated, every single claim must be found in the prior art or considered obvious. Thus, claims with more elements are more likely to be valid, because they are more likely to have an element that is not included in the prior art. Similarly, to infringe, one must practice every single element of the claim. This means that claims with more elements are less likely to be infringed, because companies should more easily design around a claim with many elements.³¹⁰ In short, the more claim elements there are, the less valuable the patent.

Additionally, words introduced in claim elements can be compared with patent specifications to approximate compliance with disclosure requirements and claim scope.³¹¹ Additionally, elements

307. Allison et al., *supra* note 270, at 451–53; Lanjouw & Schankerman, *supra* note 277, at 18.

308. See Parchomovsky & Wagner, *supra* note 4, at 53 (“In other words, because the true value of patents lies in their aggregation (in large numbers), firms seeking patent protection are increasingly forced to do so via a high-quantity, portfolio-focused patenting strategy.”).

309. See, e.g., Kristen Osenga, *The Shape of Things To Come: What We Can Learn from Patent Claim Length*, 28 SANTA CLARA COMPUTER & HIGH TECH. L.J. 617, 632–34 (2012) (finding that claim length varies based on whether the claim is dependent or independent).

310. Meeks & Eldering, *supra* note 6, at 201. Meeks and Eldering use the number of elements as an initial indication of scope. For portfolio pricing, further detailed analysis of claim elements could become costly. Indeed, they suggest performing a complete claim construction. *Id.* at 201–08. Unfortunately, claim construction is one of the most hotly disputed parts of any litigation, and district court orders are reversed about a third of the time. David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 248–49 (2008). As such, a complete claim construction is unlikely to be a low cost, highly accurate method of patent valuation.

311. F. Russell Denton, *Rolling Equilibriums at the Pre-Commons Frontier: Identifying Patently Efficient Royalties for Complex Products*, 14 VA. J.L. & TECH. 48, 69–72 (2009) (proposing use of descriptive factors to value patents).

might be combined with the number of technology classes in the patent to assess claim scope.³¹² Thus, using some measure of claim elements, perhaps interactively with backward references, technology class, and specification, may yield helpful information about the value of a portfolio.

e. Less Useful Indicators. Some indicators historically linked to patent quality may not be as helpful for patent-pricing decisions. For example, some studies have considered parallel patents (sometimes called “patent families”) in other countries.³¹³ Intuitively, companies will be willing to spend more money to patent in other countries if they believe the patent to be valuable. Analytical estimates have shown just that.³¹⁴ However, in the case of aggregation, foreign patent filings may not be a helpful indicator of portfolio pricing. As noted above, many aggregated patents come from individuals, who may not have had the resources for foreign filings no matter how valuable their patents are.

Similarly, maintenance payments (also known as renewal payments) may be the single most accurate indicators of patent value,³¹⁵ but are entirely unhelpful for patent pricing. The reason is that expired patents, including those that expire due to lack of maintenance payments, may not be enforced, and attempts to license such patents may be considered an antitrust violation.³¹⁶ As such, their value in patent portfolios is zero.

As a result, payment of fees becomes an unhelpful metric for pricing a specific licensed portfolio, even if they are extremely helpful for measuring the value of patents held by a company, a country, or an issuing in a technology area. By definition, every patent in a licensed portfolio has had its fees paid, so that metric ceases to have explanatory meaning. Of course, as noted above, such payments continue to be very important to determine what *other* patent characteristics might be correlated with the decision to pay.

312. See Joshua Lerner, *The Importance of Patent Scope: An Empirical Analysis*, 25 RAND J. ECON. 319, 320 (1994) (discussing claim scope in terms of patent classes).

313. E.g. Jonathan Putnam, *The Value of International Patent Rights* (1996) (unpublished Ph.D. Thesis, Yale University) (on file with the *Duke Law Journal*).

314. Lanjouw & Schankerman, *supra* note 277, at 18.

315. Kimberly A. Moore, *Worthless Patents*, 20 BERKELEY TECH. L.J. 1521, 1550 (2005); see Allison et al., *supra* note 270, at 440–41.

316. See Evelyn M. Sommer, *Patent License Restrictions*, 59 CONN. B.J. 236, 249–53 (1985) (stating that collecting royalties from expired patents may be considered an antitrust violation).

Characteristics associated with a high payment rate will indicate a higher value, whereas characteristics associated with a low payment rate will indicate a lower value.

f. Crowdsourcing. To the extent that objective yet qualitative information about a patent is desired for pricing, crowdsourcing may be a way to inexpensively learn more about patents in a portfolio. For example, Article One Partners (Article One) is a company devoted to crowdsourced prior-art collection.³¹⁷ Its thousands of members scour the earth for prior art in many different languages. Thus, before any transaction, the parties could submit a random sample of patents (or the patents most likely to be infringed) for a prior-art study. This would allow the parties to resolve some validity disputes at a much lower cost than litigation. Indeed, patent owners could submit their own patents to present comprehensive data at the time of offering. If patents are to be treated as securities, such disclosures would be in line with offering memoranda that barrage potential buyers with all the information available about the offered security.

Crowdsourcing might also be used to determine which patents are core to a technology. For example, Article One offers “State of the Art Studies,” in which its members find as many patents as possible relating to a certain technology.³¹⁸ Using this technique, parties would ask members to find all patents relating to, say, mobile phone antennas. After a few days (or weeks), the parties could evaluate who owns the patents that users thought important, and determine what percentage of those patents were in the offered portfolio. Article One has published the results of such studies in the past.³¹⁹

Crowdsourcing need not stop at prior art, however. If there are questions about the breadth of patent claims, then users of Mechanical Turk could help.³²⁰ Mechanical Turk offers the services of millions of “micro task” users, who get paid as little as a penny to

317. ARTICLE ONE PARTNERS, <http://www.articleonepartners.com> (last visited Aug. 20, 2013).

318. *Weekly Discussion: Guaranteed Rewards*, ARTICLE ONE PARTNERS (Apr. 27, 2010), <http://www.articleonepartners.com/newsletter/20100427.html>.

319. Marshall Phelps & Cheryl Milone, *LTE Standard Essential Patents Now and in the Future*, ARTICLE ONE PARTNERS (Feb. 2012), http://newsletters.articleonepartners.com/news_f1317eac-ee13-5a66-d0f5-38ea99a4c1eeLTE-Standard-Essential-Patents-Now-and-in-the-Future.pdf.

320. See MECHANICAL TURK, <http://www.mechanicalturk.com> (last visited Nov. 10, 2012).

perform a simple but potentially repetitive task. Customers submitting tasks to the website can ask that only users with particular skills and accuracy rates participate. Thus, licensing parties could submit patent claims to technically inclined Mechanical Turk users, asking them to submit the name of one product that might be infringing the patent claim for a penny. For a mere \$100, parties could get a sample of ten thousand potentially infringing products. For \$1,000, the parties could get a list of ten potentially infringing products associated with each of ten thousand different patents. The licensing parties could use the frequency that the accused product shows up on the list to determine the potential scope of the claims and the scope of the portfolio.

4. *Prospects.* Despite the myriad ways that patent portfolios might be valued, an efficient method of pricing may be difficult to achieve in practice. Even if a formula with objective indicia were developed, that might not be enough for particular institutional buyers. For example, Microsoft evaluates patents based on at least three criteria: the potential for licensing or resale revenue, the potential to reduce litigation risk, and the potential strategic value (such as providing exclusive rights to technology or dissuading competitors from implementing a feature).³²¹ These three criteria are interrelated, but each is informed by a very different analysis, some of which is necessarily subjective to the company rather than based on objectively measurable criteria. Thus, although company stock may have differing values for different holders (for example, majority ownership might command a premium), patent portfolios may always have a different value to every company that considers them.

As a result, critics may be concerned that any pricing set will not reflect the “true” pricing of a portfolio. Instead, they worry that undue leverage from aggregation, hold-up, and other transactions costs will inflate the actual cost above the “real” cost.³²²

This may be true, but securities laws can certainly help by forcing additional disclosures that will aid in pricing and reducing information asymmetry.

Further, the notion that there is a “true” cost of any portfolio is an incomplete picture of market transactions. As noted above, purchasers—but also licensees—are not completely helpless. They

321. Kelley, *supra* note 1, at 127–28.

322. Carrier, *supra* note 61, at 3.

can refuse to license and force the patentee to file suit, a potentially costly affair. They can negotiate prices based on the size and quality of portfolios. They can cross-license patents. They can agree not to infringe certain patents. In short, even if the price is “inflated” in the eyes of an outside observer, the transaction price represents the willingness to pay for the patents at that time, and is thus the market-clearing price. Like it or not, this is the value of the portfolio to the specific parties at that specific time.

To be sure, that price may not be the price that infinite competitors would bid with full information for an asset of known value. The efficient price may be unknowable and unachievable, even with the aid of securities rules. The goal of some of the objective pricing methods discussed above is internalization of inefficiency concerns, such as bargaining leverage, technology, and commercialization using objective indicia.³²³ These more complex models might even include aspects of game theory to replicate the types of subjective considerations and negotiations that hinder current valuation methodologies.³²⁴

CONCLUSION

The definition of securities is deliberately both broad and flexible. Though treating patent portfolio transactions as investment contracts may push the limits of that definition, such transactions arguably fall within the definition set forth by the Supreme Court.

More importantly, the reasons for treating such transactions as security transactions reflect the purposes of securities laws. In the wrong environment—indeed, the environment some people believe currently exists—portfolio owners can holdup potential licensees by threatening to enforce a vast portfolio of patents. Although that threat will likely never be fully alleviated, securities treatment can help.

First, such treatment can assist with market integrity. Public sale restrictions would not be very helpful because most licenses would likely fall under some exception. Further, a law that denied the ability to license at all (which the securities laws envision) would be awful; it would force patent holders to sue small potential licensees in the first

323. See Denton & Heald, *supra* note 9, at 1219–24 (describing ways to incorporate data into an option-pricing formula).

324. *Id.* at 1236–37 (discussing the role of game theory in patent valuation).

instance because small companies could not license without violating the law. This worst-case scenario is unlikely; most transactions would likely fall into an exemption.

Even if private sales are the norm, rules that regulate material misstatements or omissions of fact—truth telling—might be very beneficial in the market. Such rules might limit misstatements by licensors about companies that had licensed in the past, about the existence of prior art, or of some other fact that might affect the value of the portfolio. In other words, if patents in the portfolio are invalidated, *all* licensees might have an affirmative cause of action for securities fraud due to the omitted facts associated with the patents. Perhaps this requirement might help level the negotiating table.

Second, treating portfolios as securities might aid in market formation. From a regulatory standpoint, securities laws limit the use of “dark markets,” so that transactions would be handled by a clearinghouse. Companies are beginning to create such clearinghouses, and legal rules would only accelerate formation. Clearinghouses, in turn, would help connect buyers with sellers, identify technologies claimed by patent owners, and reveal pricing to other market participants.

From an encouragement point of view,³²⁵ simply calling each transaction a securities transaction might incentivize the implementation of objective pricing methodologies. These pricing methodologies serve the market in two ways: they reduce the effect of potential hold-up on patent pricing, and they reduce transaction costs.

There is no wholesale cure to the problem of hold-up for aggregated patent portfolios. Assuming that aggregation is here to stay, and that all types of companies are aggregating patents, treating patent portfolios as securities could go a long way toward easing concerns.

325. See generally RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (2008) (arguing that default rules can encourage behavior even if the rules can be avoided without legal penalty).