

SECURITIZATION OF PATENTS AND ITS CONTINUED VIABILITY IN LIGHT OF THE CURRENT ECONOMIC CONDITIONS

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I. INTRODUCTION

The United States Constitution states that “Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹ Through its constitutional grant of power to promote the progress of science and the useful arts, Congress created the Patent Act, which outlines the patent granting process and the rights possessed by patent holders.² Thus, a patent is really a statutory creation by the federal government, granting an inventor “the right to exclude others from making, using, offering for sale, or selling . . . or importing” the claimed invention or process.³ When this right to exclude⁴ is combined with commercial success it can create enormous financial value.⁵

Patents are issued for useful,⁶ novel⁷ and non-obvious⁸ inventions and processes that are not laws of nature, abstract ideas, or natural phenomena.⁹ There is generally a broad interpretation of what constitutes patentable matter.¹⁰ In exchange for obtaining a patent and the right to exclude others from practicing the invention, the patent holder must disclose the invention to the public.¹¹ However, receiving a patent is only the first step in trying to gain value from it.

Most commonly, patent owners will attempt to extract value from the patent through commercialization, enforcement through lawsuits against infringers, licensing, cross-licensing, or use of

¹ U.S. CONST. art. I, § 8, cl. 8.

² See *Arachnid, Inc. v. Merit Indus., Inc.*, 939 F.2d 1574, 1578–79 (Fed. Cir. 1991) (citing 35 U.S.C. § 151 (2002)).

³ 35 U.S.C. § 154(a) (2000).

⁴ Alexander K. Arrow, *Managing IP Financial Assets: Principles From the Securities Market*, in FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY 111, 117 (Bruce Berman ed., John Wiley & Sons, Inc. 2002).

⁵ See Russell L. Parr, *IP Leverage: Facilitating Corporate Value Creation*, in FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY, *supra* note 4, at 271, 273; H. Jackson Knight, *Intellectual Property “101:” What Executives and Investors Need to Know About Patent Rights and Strategy*, in FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY, *supra* note 4, at 3, 12.

⁶ 35 U.S.C. § 101 (2000).

⁷ 35 U.S.C. § 102 (2000).

⁸ 35 U.S.C. § 103 (2000).

⁹ *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

¹⁰ See *generally id.* at 308–09; *Diamond v. Diehr*, 450 U.S. 175, 182 (1981); *In re Bilski*, 545 F.3d 943, 973 (Fed. Cir. 2008).

¹¹ See 35 U.S.C. § 122(b)(1) (2000).

patent pools.¹² Patents can also be used as collateral for loans,¹³ and more recently royalties from patents have been used as cash flow vehicles for securitization.¹⁴ It is this use of patents for royalty securitization where patent holders have begun to look to further exploit their patent holdings.

This paper will look into the recent phenomenon of patent royalty cash flow securitization. The first part will look at the growing importance of intellectual property to the overall economy and how companies are moving to exploit patent value. Since the cycle to bring a patent from the idea stage to commercialization is often expensive, part two will look at traditional methods companies use to raise money and some of the drawbacks to these methods. It is because of these drawbacks that companies have recently begun to look for alternative methods of financing such as securitization. Part three will examine the general process of securitization. Part four will examine the patent-specific nuances in the patent securitization process. Given the links between securitization and the current economic crisis, the continued viability of securitization as it applies to patents will be treated in part five. Finally, the importance of valuation to determining accurate investor information will be examined in part six.

II. THE GROWING IMPORTANCE OF INTELLECTUAL PROPERTY

Property rights are often compared to a bundle of sticks, with each stick representing a right in the tangible property, such as the right to transfer, the right to use and exploit, and the right to exclude.¹⁵ The best example of these rights is embodied in real-property.¹⁶ While a patent is considered property, an owner is not granted the full “bundle of sticks” of property rights in an

¹² See CHRISTOPHER M. ARENA & EDUARDO M. CARRERAS, *THE BUSINESS OF INTELLECTUAL PROPERTY* 197–98 (Oxford University Press 2008). Patent pools are generally groupings of patents used primarily for licensing purposes. *Id.* at 198.

¹³ Xuan-Thao Nguyen, *Collateralizing Intellectual Property*, 42 GA. L. REV. 1, 29 (2007).

¹⁴ Jay H. Eisbruck, *Credit Analysis of Intellectual Property Securitization: A Rating Agency Perspective*, in *FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY*, *supra* note 4, at 441, 442–45, 449.

¹⁵ Kristine S. Tardiff, *Analyzing Every Stick in the Bundle: Why the Examination of a Claimant’s Property Interests is the Most Important Inquiry in Every Fifth Amendment Takings Case*, 54 FED. L. 30, 31 (2007).

¹⁶ *Id.*

invention but merely “the [negative] right to exclude others.”¹⁷ Property rights in an invention are far less than those of tangible property, such as real-estate, but patents have nonetheless become valuable assets with significant value to the whole economy.¹⁸

Continuing the comparison between intellectual property and real or personal property, patents and other intellectual property are known as “intangible property,” meaning that the invention or process asset is not physical but is represented, in this case, by the underlying patent.¹⁹ Because of the intangible quality of intellectual property, many legal scholars and business people have approached patents differently than they would more familiar tangible property.²⁰ It is also why patent holders have only recently begun to take advantage of their property’s security value to raise funds.

A. Methods for gaining value from a patent

While a patent owner only has a right to exclude others from making or practicing an invention, the patent holder does not necessarily have the affirmative right to practice the invention.²¹ If the patent holder chooses to practice the invention or can feasibly produce the invention, value can be gained because others are excluded for a statutorily defined period of time.²² However, actually producing an invention may be a problem because the expense of manufacturing may be prohibitive, especially if an inventor does not already have a manufacturing facility or if the inventor is a small start-up business.²³ High costs can impact decisions by both small and large companies,

¹⁷ Jesse S. Chui, *To What Extent Can Congress Change the Patent Right Without Effecting a Taking?*, 34 HASTINGS CONST. L.Q. 447, 447 (2007).

¹⁸ Nguyen, *supra* note 13, at 10 (noting that intellectual property will account for six trillion dollars in global trade by 2020).

¹⁹ James F. McDonough III, *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L.J. 189, 205–06 (2006).

²⁰ Pauline Stevens, *Security Interests in Patents and Patent Applications?*, 6 U. PITT. J. TECH. L. & POL’Y 2, 2 (2005).

²¹ 35 U.S.C. § 154(a)(1) (2000); *see* Knight, *supra* note 5, at 5–6.

²² *See* 35 U.S.C. § 154(a)(2).

²³ *See* Stephen Bennett, *The IP Asset Class: Protecting and Unlocking Inherent Value*, 5 J. MARSHALL REV. INTELL. PROP. L. 402, 404 (2006) (illustrating the expense for a production facility after an inventor creates and perfects a patent).

resulting in many unexploited patents.²⁴

Prior to the mid-nineties, it was not uncommon for companies to let their patents go to waste simply because there was no immediate use for the product or the company could not determine how to exploit it.²⁵ It is only within the last decade that companies have begun to actively attempt to exploit their intellectual property assets.²⁶ One calculation assessed as much as one trillion dollars of intellectual property assets being ignored by patent owners.²⁷ Some estimations have pegged the current value of intellectual property in the United States between five and nine trillion dollars, with over one trillion dollars invested for the creation of intangible assets.²⁸ Other studies indicate that 80% of the value of all publicly-traded companies comes from intangible assets, including patents.²⁹ Even if intellectual property owners had improved upon these figures from the mid-nineties, there would still be billions of dollars in untapped resources.

A common method companies use to monetize patents is to find an existing manufacturer capable and willing to manufacture the invention and to subsequently license the patent to the manufacturer.³⁰ Being able to license the patent is a key first step in the securitization process.³¹ Through licensing, the inventor would allow another to profit from his efforts in

²⁴ Samson Vermont, *The Economics of Patent Litigation*, in FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY, *supra* note 4, at 327, 327; Thomas Ewing, Book Note, *From Ideas to Assets: Investing Wisely in Intellectual Property*, 43 SANTA CLARA L. REV. 631, 646–47 (2003).

²⁵ KEVIN G. RIVETTE & DAVID KLINE, REMBRANDTS IN THE ATTIC: UNLOCKING THE HIDDEN VALUE OF PATENTS 122 (Harvard Business School Press 2000).

²⁶ *See id.* (stating that patent licensing revenues have risen more than \$85 billion since 1990).

²⁷ *Id.* at 123.

²⁸ Nguyen, *supra* note 13, at 10; Kenan Patrick Jarboe, *Building a Capital Market for Intangibles*, INTELL. ASSET MGMT., 30, 30–31 (2008).

²⁹ Raymond Millien & Ron Laurie, *A Survey of Established & Emerging IP Business Models*, 9 SEDONA CONF. J. 77, 77 (2008).

³⁰ Russell L. Parr, *supra* note 5, at 271, 284; *see, e.g.*, Robert Greene Sterne et. al., *The 2005 U.S. Patent Landscape for Electronic Companies*, 823 PRAC. L. INST. 293, 320 (2005) (providing examples of companies that license their patents to outside manufacturers); *see also* Jennifer Burke Sylva, *Bowie Bonds Sold for Far More Than a Song: The Securitization of Intellectual Property as a Super-Charged Vehicle for High Technology Financing*, 15 SANTA CLARA COMPUTER & HIGH TECH. L.J. 195, 215 (1999) (“[A] company may choose to license the use of or assign some or all of its intellectual property to another entity and receive periodic payments under that agreement.”).

³¹ Parr, *supra* note 5, at 283.

exchange for regular license payments.³² Using the right to exclude others from making the patent, the owner does not commercialize the invention, but will allow some to make the invention while preventing others from doing so.³³ The patent owner thus gains revenue from the licensee rather than from directly manufacturing the invention.

III. TRADITIONAL METHODS OF FINANCING

Securitization is essentially the process of creating financial instruments that can be marketed to investors based on underlying assets or financial instruments.³⁴ Securitization is a recent option that has opened up to patent owners as a means of exploiting ownership of this potentially valuable resource. Securitization origins date back to 1970 when financiers created financial products backed by cash flows isolated from the beneficiary seeking the financing.³⁵ Mortgages were a perfect asset for these types of transaction because of the regular nature of mortgage payments. While mortgages were initially the only asset that was securitized, in the past 15 years, financiers began securitizing many different kinds of assets, including intellectual property proceeds.³⁶ It is estimated that the securitization industry has grown to be valued at over six trillion dollars.³⁷ The first patent securitization transaction was announced in 1999 in an effort to capitalize on this trend.³⁸

Traditionally, a company could raise money by selling equity or through debt financing.³⁹ By selling equity, the company would sell interest in the company in the form of stock to

³² Amy L. Landers, *Let The Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 SANTA CLARA L. REV. 307, 307–08, 308 n.3 (2006).

³³ *Id.* at 307–08.

³⁴ See BLACK'S LAW DICTIONARY 1384 (8th ed. 2004); Dictionary.com, Securitization, <http://dictionary.reference.com/search?q=securitization> (last visited May 23, 2009); Investopedia, Securitization, <http://www.investopedia.com/terms/s/securitization.asp> (last visited May 23, 2009).

³⁵ STEVEN L. SCHWARCZ ET AL., SECURITIZATION, STRUCTURED FINANCE AND CAPITAL MARKETS 2 (Matthew Bender & Co., Inc. 2004).

³⁶ *Id.* at 3. See also Jay H. Eisbruck, *supra* note 14, at 441, 442 (stating that intellectual property securitization began in the mid-1990s).

³⁷ SCHWARCZ ET AL., *supra* note 35, at 3.

³⁸ Marianne Nardone, *First Patent Securitization Pending*, BONDWEEK, A PUBLICATION OF INSTITUTIONAL INVESTOR, INC., (Jan. 18, 1999), available at http://www.brodyberman.com/articles/BondWeek_1999Jan.htm.

³⁹ SCHWARCZ ET AL., *supra* note 35, at 3.

shareholders.⁴⁰ The stockowners would generally be able to share in the profits of the company, but they also faced the risk that if the company was unable to pay its debts, the stockowners might lose their investments and end up with nothing.⁴¹ A company is limited as to how often it can issue new stock. As residual owners of a company, stockholders would be hesitant to invest if a company regularly attempted to issue new shares because each new issue of shares would dilute the shares of existing stockholders.⁴² Another factor in raising money by issuing stock is the high cost to the company of compliance with the various Securities and Exchange Commission registration requirements.⁴³

As the importance of intellectual property increased over the past twenty years, start-up companies with intellectual property began approaching venture capitalists for their financing needs.⁴⁴ Venture capitalists are entities willing to invest in riskier business enterprises, however, in exchange for this risk, they wanted a large equity interest in the company and a voice on the company board.⁴⁵ This method of raising funds may be unappealing to many companies because management would have to cede some control in order to obtain venture capitalist financing.

Equity financing is generally avoided by conservative investors such as banks. Traditional moneylenders were not ordinarily willing to invest in stock, particularly that of small start-up companies, because of the high risk involved.⁴⁶ However, these traditional investors would be willing to provide more conservative debt financing.⁴⁷ The drawback for a company seeking debt financing is that lenders would generally require

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

⁴³ JOHN C. COFFEE, ET AL., *SECURITIES REGULATION*, 167–68 (Foundation Press 10th ed. 2007) (1963).

⁴⁴ Nguyen, *supra* note 13, at 13.

⁴⁵ *See id.* at 13–14 (showing how venture capitalists provide equity financing to many start-up companies but that one drawback would be a loss of control by that company's management). *See also*, Joseph A. Agiato, *The Basics of Financing Intellectual Property Royalties*, in *FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY*, *supra* note 4, at 423, 429 (“While venture capitalists commonly acquire an equity interest in exchange for capital, IP royalty financing does not dilute a borrower's equity.”).

⁴⁶ Nguyen, *supra* note 13, at 14.

⁴⁷ SCHWARCZ ET AL., *supra* note 35, at 3.

the borrower to have significant assets and financial stability in order to obtain funds.⁴⁸ Nonetheless a company was not without borrowing options as long as it has some assets. Rather than just lending money based solely on a company's promise to pay, a lender could mitigate non-payment risk by requiring the borrower to provide collateral or security for the loan.⁴⁹

Pawnbrokers provide the oldest form of collateral debt financing, where the broker holds collateral until the debt is repaid.⁵⁰ However, in modern markets, such borrowing is not feasible since the borrower will often need the collateral in order to pay back the debt.⁵¹ Modern financing allows the lender to take the asset as collateral but without taking physical possession of the asset from the borrower.⁵² To ensure that a lender's interest in collateral is recognized by others, especially in a potential bankruptcy proceeding, a lender can "perfect" its security interest by signing an agreement with the debtor which describes the asset and indicates that the parties intend to use the asset as collateral.⁵³ Lenders are then required to file financing documents identifying the security in compliance with either Article 9 of the Uniform Commercial Code (UCC) or an appropriate federal government entity as required by statute.⁵⁴ By filing, the creditor's security interest is perfected, signifying its priority over other creditors for the collateral in the event that the debtor cannot repay its debts.⁵⁵

Whereas there are many systems in place to perfect tangible assets, the system for perfecting intangible property is still

⁴⁸ See Nguyen, *supra* note 13, at 14 (stating that banks are more inclined to provide loans to businesses which were "more mature" and already profitable).

⁴⁹ SCHWARCZ ET AL., *supra* note 35, at 4.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ LYNN M. LOPUCKI ET AL., *COMMERCIAL TRANSACTIONS: A SYSTEMS APPROACH* 826–27 (Aspen Publishers 3d ed. 2006).

⁵⁴ SCHWARCZ ET AL., *supra* note 35, at 4; see also Alice Haemmerli, *Insecurity Interests: Where Intellectual Property and Commercial Law Collide*, 96 COLUM. L. REV. 1645, 1683–86 (1996) (discussing the conflict between federal preemption by the Copyright Act and UCC Article 9 transactions in the realm of perfection of security interests and where the filing must be done); Michael C. McGrath, *Structural and Legal Issues in Securitization Transactions*, 878 PRAC. L. INST. 751, 764–66 (2005) (discussing the protections of perfection against bankruptcy and subsequent creditors).

⁵⁵ LOPUCKI ET AL., *supra* note 53, at 951; SCHWARCZ ET AL., *supra* note 35, at 5.

evolving.⁵⁶ To obtain a patent, information must be filed with the Patent and Trademark Office (PTO).⁵⁷ The PTO is a federal entity established under the Patent Act, which approves and lists all patents.⁵⁸ However, to perfect a patent, court decisions have stated that an individual state filing, not a federal PTO filing, is necessary.⁵⁹ This poses complications for potential lenders because they have to investigate several different locations in order to ensure that the potential borrower has not already secured its patent interest with another creditor and it creates federal pre-emption issues with regard to perfecting filing.⁶⁰

In a debt financing situation, the patent holder would use the patent as collateral for a loan.⁶¹ In this transaction, a lender would take a security interest in the patent in exchange for a sum of money.⁶² Depending on the risk of non-payment perceived by the lender and the value of the collateral, the repayment interest rate will vary.⁶³ Higher risk perception and lower collateral value lead to higher interest rates and a higher cost of borrowing.⁶⁴ While this provides the patent holder with funds to exploit the patent, the costs of borrowing may still be too high.

IV. SECURITIZATION IN GENERAL

Securitization provides an attractive alternative to both debt and equity financing because it lowers the cost of raising money. The assets involved in a securitization transaction are assets that generate regular cash flows.⁶⁵ The securitization process

⁵⁶ See *LOPUCKI ET AL.*, *supra* note 53, at 951–52, 958.

⁵⁷ 35 U.S.C. § 111 (2000).

⁵⁸ 35 U.S.C. §§ 1-2 (2000).

⁵⁹ *LOPUCKI ET AL.*, *supra* note 53, at 958–59; *see also In re Cybernetic Servs., Inc.*, 252 F.3d 1039, 1057–58 (9th Cir. 2001); *In re Pasteurized Eggs Corp.*, 296 B.R. 283, 291–92 (Bankr. N.H. 2003).

⁶⁰ See *LOPUCKI ET AL.*, *supra* note 53, at 951–53; *see also Cybernetic*, 252 F.3d at 1045–46, 1057-58 (dealing with pre-emption issues); *Pasteurized Eggs Corp.*, 296 B.R. at 291.

⁶¹ See *Jarboe*, *supra* note 28, at 30 (stating that intangible assets have long served as collateral for loans; for example, a secret chocolate-making process was used as collateral for a loan in 1837).

⁶² Douglas R. Elliott, *Asset-Backed IP Financing: Strategies for Capitalizing on Future Returns*, in *FROM IDEAS TO ASSETS: INVESTING WISELY IN INTELLECTUAL PROPERTY*, *supra* note 4, at 459, 467, 477.

⁶³ See *SCHWARCZ ET AL.*, *supra* note 35, at 5 (discussing the basic tenets of the risk and reward system, including the fact that the risk rating of the security interest is tied to the interest rate payable on the security interest).

⁶⁴ *Id.*

⁶⁵ See *id.* at 7 (“[S]ecurities are intended to be payable ultimately and over

separates the debtor entity, also known as the originator, from the collateral.⁶⁶ This is done by creating what is known as a special purpose entity (SPE) and transferring the assets to the SPE in order to separate the asset from any bankruptcy risk associated with the originator.⁶⁷ The originator benefits because the money is raised with a security interest only in the cash flow and not other company assets.⁶⁸ If a transfer is performed correctly, creditors of the originator will have no interest in the assets of the SPE and will thus not be creditors of the SPE.⁶⁹ This keeps investors in patent-collateral from becoming creditors of the original company's assets.

The SPE will ordinarily issue some type of debt instrument, such as a bond, to raise cash.⁷⁰ Money raised by issuing debt instruments would be used to purchase the asset, or assets, from the originator.⁷¹ Aside from the reduced bankruptcy risk, assets of a SPE are generally of the type involving cash flow.⁷² Because the SPE is bankruptcy remote, investors will look to cash flow of the SPE and not the creditworthiness of the originator to determine whether to invest.⁷³ Rather than basing their decision on the credit rating of the originator, investors are likely to look at the cash flow predictability and quality of the underlying SPE asset.⁷⁴ Through the use of the SPE, the originator has access to financing at lower interest rates than it would ordinarily receive, thus making credit cheaper for the borrower.⁷⁵

To achieve bankruptcy remoteness, the originator must structure the property transfer so that it is recognized as a “true

time from collections on the [assets] purchased . . .”); *see also* Ariel Glasner, *Making Something Out of “Nothing” The Trend Towards Securitizing Intellectual Property and the Legal Obstacles That Remain*, 3 J. LEGAL TECH. RISK MGMT. 27, 29 (2008) (stating that assets will be used in a securitization transaction so long as they are linked with a series of future income).

⁶⁶ SCHWARCZ ET AL., *supra* note 35, at 6–7.

⁶⁷ *Id.* at 6–7.

⁶⁸ *Id.* at 7.

⁶⁹ *Id.*

⁷⁰ *Id.*; *see also* Investopedia, What Does Bond Mean, <http://www.investopedia.com/terms/b/bond.asp> (last visited May. 23, 2009) (explaining that a bond is an obligation where an investor loans money to another with the promise to repay the lender with interest).

⁷¹ Edward M. Iacobucci & Ralph A. Winter, *Asset Securitization and Asymmetric Information*, 34 J. LEGAL STUD. 161, 165 (2005).

⁷² *See id.* at 161–62.

⁷³ SCHWARCZ ET AL., *supra* note 35, at 7.

⁷⁴ Glasner, *supra* note 65, at 31.

⁷⁵ SCHWARCZ ET AL., *supra* note 35, at 8.

sale.”⁷⁶ If it is not recognized as a true sale, then the transaction transferring assets to the SPE is considered a secured loan.⁷⁷ “This distinction is critical . . . [If the originator files for bankruptcy] section 362 of the U.S. Bankruptcy Code would impose a stay of all actions by the [SPE] seeking to obtain access to the receivables if the transaction were a secured loan.”⁷⁸ If the asset transfer was considered a true sale, the SPE would have asset ownership, and in the event of the originator’s bankruptcy, the assets would not be part of the bankruptcy proceedings.⁷⁹ This distinction is a key factor in a successful securitization transaction and its appeal to both originators and investors.

In its most simplistic terms, a true sale would exist if the risks and benefits of ownership have been transferred to the SPE.⁸⁰ The factors used to determine a true sale for bankruptcy purposes include: 1) the intent of the parties; 2) the nature of the transaction; 3) UCC Perfection; and 4) accounting and legal opinions on whether assets have been isolated from creditors of the originator in the event of bankruptcy.⁸¹ Determining whether the nature of the transactions meets true sale requirements will involve examining factors such as: 1) the seller’s ability to retain or reclaim the economic benefits of the asset; 2) the ability of the SPE to retain benefits of purchased asset; 3) whether the price paid is fair value for the asset; 4) notice to third parties; and 5) tax treatment of the transfer.⁸² A further condition to establish bankruptcy remoteness between the SPE and the originator requires that the SPE have a separate identity from the originator, including at least one independent director.⁸³ Achieving these requirements indicates the independence of the SPE from the originator’s business decision-making process.

Securitization is a system that can benefit all parties involved. Investors potentially get a viable asset protected by the existence of a valid asset, originators get an upfront sum of money to pursue their company goals, and the SPE becomes a new entity

⁷⁶ *Id.* at 7. See also McGrath, *supra* note 54, at 764–65 (outlining the factors that determine whether a true sale has occurred).

⁷⁷ Iacobucci & Winter, *supra* note 71, at 165.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ See Bennett, *supra* note 23, at 413.

⁸¹ McGrath, *supra* note 54, at 764–65.

⁸² *Id.* at 764.

⁸³ *Id.* at 765.

with ownership of cash flows stemming from valid patents which it owns.

V. SECURITIZATION AS IT APPLIES TO PATENTS

Since successful securitization requires regular cash flow, transaction models using patents will have to exhibit such behavior. While a patent is defined as a right to exclude others from practicing the patented invention, from a financial standpoint, a patent can be defined as a potential right to a future series of cash flows.⁸⁴ In the case of patents, the originator would sell the patent to the SPE, while the SPE would grant a license to the originator or other licensees.⁸⁵ The SPE would then issue notes or debt securities in order to raise cash to pay the originator for the patent.⁸⁶ The notes would be backed by the patent's future licensing revenues stemming from both the originator and potential third parties.⁸⁷ The value of the notes issued by the SPE would then be based on potential licensing revenues of the patent rather than the creditworthiness of the originator.⁸⁸

Patent securitization is different from more conventional, tangible asset-backed securitization because its "intangible" quality results in different rights from tangible properties.⁸⁹ As stated earlier, the securitization interest in a patent is not in the invention itself but in the patent owner's right to exclude others from making, using, or selling the invention.⁹⁰ Rights in the patent are distinct from rights in the patented invention and each can be conveyed separately.⁹¹ By holding a patent, the owner can assert rights against third parties, but third parties can infringe against the patent without the patent owner's knowledge.⁹² Whether another party has a license to make the invention or whether a party is an infringer can result in valuation confusion for the investor.⁹³ The potential for

⁸⁴ Arrow, *supra* note 4, at 117.

⁸⁵ See Agiato, *supra* note 45, at 434–35; Glasner, *supra* note 65, at 29.

⁸⁶ Glasner, *supra* note 65, at 31.

⁸⁷ *See id.*

⁸⁸ *Id.*

⁸⁹ *Id.* at 27.

⁹⁰ *Id.* at 40–41.

⁹¹ *See id.* at 41–42.

⁹² *Id.* at 42.

⁹³ *Cf.* GORDON V. SMITH & RUSSELL L. PARR, INTELLECTUAL PROPERTY: VALUATION, EXPLOITATION AND INFRINGEMENT DAMAGES 142–43 (John Wiley &

infringement is a legitimate risk concern for investors because it can lead to protracted and expensive litigation, diminishing investor value.⁹⁴ An additional risk is the potential that the patent can be found invalid, thus nullifying its value and that of the entire investment.⁹⁵

While securitization is becoming more common for trademarks and copyrights, it seems that patent securitization is still not something regularly attempted.⁹⁶ One likely reason is the greater difficulty investors have in understanding patents. Also, many companies recognize the importance of intellectual property, but organizational structures are often not set up to take financial advantage of their patent portfolios.⁹⁷ Furthermore, financial companies have been reluctant to participate in patent collateralization because due diligence requires expertise and financial companies have only recently begun to value patent protection.⁹⁸ Nonetheless, securitization is a beneficial option for all types and sizes of organizations.⁹⁹ Effective use of patent securitization can 1) provide companies with funds for expansion, additional research, and working capital; 2) provide non-profit organizations and universities with a lump sum payment rather than waiting for future royalties; or 3) give inventors immediate cash in exchange for the upside potential of their patent.¹⁰⁰

VI. IS SECURITIZATION STILL VIABLE IN THE WAKE OF RECENT FINANCIAL TURMOIL?

Recent worldwide economic turmoil has had a chilling effect on

Sons, Inc. 2005) (analogizing valuation of intellectual property to that of real property).

⁹⁴ See McDonough, *supra* note 19, at 206 (stating that patent owners can only enforce their entitlement to the patents by bringing civil lawsuits, for which the patent owner must have sufficient funds to proceed with the lawsuit).

⁹⁵ See Bennett, *supra* note 23, at 416.

⁹⁶ *Id.* at 425. See also Glasner, *supra* note 65, at 28, 48, 63 (explaining that patent securitization is not as common as trademark securitization because patents contain intrinsic risks that trademarks do not, and that while copyright securitization is feasible, it would require due diligence which would increase securitization costs).

⁹⁷ See Agiato, *supra* note 45, at 427.

⁹⁸ *Id.*

⁹⁹ See *id.* at 428.

¹⁰⁰ *Id.* Securitization is also an option for venture capitalists looking to refinance investments or “leverag[e] . . . IP to satisfy a round of financing” and IP management companies looking to gain financial independence from their parent companies. *Id.*

both lending and securitization.¹⁰¹ Economic policies and regulatory systems have developed over centuries with tangible assets as their main focus.¹⁰² Since intellectual property securitization is a recent phenomenon, it is quite conceivable jittery investors will be slow to embrace it. Investors may also seek safer options rather than more exotic investments like patent license backed securities, especially since investor education in the nuances of patents is still an ongoing process.¹⁰³ Nonetheless, it is undeniable that patents can be of considerable value, and as investor familiarity with intellectual property, in general, increases, it is likely investments will follow.¹⁰⁴

Of the asset backed securities available, mortgage backed securities are the oldest form, and they were originally the most straightforward.¹⁰⁵ They were so attractive because the underlying mortgage pools were supposed to be a combination of secure and risky mortgages.¹⁰⁶ The theory was that even if some of the mortgagors did not pay, there would be sufficient cash flow from the rest to ensure that the investment would continue to be viable.¹⁰⁷ The theory behind it was not unsound, but the investment transactions and packages became ever more complicated and opaque, leading to investor panic and creditor freezes.¹⁰⁸

¹⁰¹ Christopher Wood, Op-Ed., *The Fed is Out of Ammunition*, WALL ST. J., Nov. 24, 2008, at A19, available at <http://online.wsj.com/article/SB122748912533552007.html>.

¹⁰² Jarboe, *supra* note 28, at 30.

¹⁰³ Eisbruck, *supra* note 14, at 443.

¹⁰⁴ *Id.*

¹⁰⁵ See Sinclair Stewart & Paul Waldie, *How It All Began*, GLOBE & MAIL, Dec. 19, 2008, available at <http://business.theglobeandmail.com/servlet/story/RTGAM.20081219.wcover20/BNStory/Business> [hereinafter *How It All Began*] (explaining that as the financial system evolved, riskier investments were favored over traditional loan and underwriting services); see also Sinclair Stewart & Paul Waldie, *Lehman's Rise and Fall*, GLOBE & MAIL, Dec. 22, 2008, available at <http://business.theglobeandmail.com/servlet/story/RTGAM.20081222.wrlehman22/BNStory/Business/home> [hereinafter *Lehman's Rise and Fall*] (stating that mortgage backed securities were developed in the late 1980s and became more popularly used in the mid-1990s).

¹⁰⁶ *Lehman's Rise and Fall*, *supra* note 105.

¹⁰⁷ Felix Salmon, *Recipe for Disaster: The Formula That Killed Wall Street*, WIRED, Feb. 23, 2009, http://www.wired.com/print/techbiz/it/magazine/17-03/wp_quant.

¹⁰⁸ See *How It All Began*, *supra* note 105 (describing the former practice of issuing a mortgage and keeping it on the lender's books until it was paid off, as compared to the increasingly arcane financial transactions used in modern times); *Lehman's Rise and Fall*, *supra* note 105 (describing how the credit markets froze because investors were unable to determine the identity of the

The current financial turmoil is largely attributed to an imploding securitized mortgage market and the inability of the market, investors, and even issuers to accurately determine the value of the assets backing these securities.¹⁰⁹ This has led to a lack of confidence in investment valuation methods, creating a domino effect where all banks have tightened lending standards for commercial and industrial loans for large and midsize firms, effectively leading to an overall freezing of securities sold on secondary markets.¹¹⁰ Nonetheless, markets for some asset-backed securities have started to rebound.¹¹¹ It is largely expected that while there will be some changes to collateralized debt obligations (CDOs), the markets will rebound in the near future.¹¹²

The same reasoning that made CDO's attractive can be used for patent backed securities. Using a single patent, rather than a pool of patents, makes the investment far riskier from an investor's standpoint.¹¹³ However, a properly valued and transparent pool of patents would tend to spread the risk across the pool, rather than relying on one hit or miss patent.¹¹⁴ The

ultimate owners of the financial instruments in use).

¹⁰⁹ See *Coming Soon . . . Securitization with a New, Improved (and Perhaps Safer) Face*, KNOWLEDGE@WHARTON, Apr. 2, 2008, <http://knowledge.wharton.upenn.edu/article.cfm?articleid=1933> [hereinafter *Coming Soon*]. See also *Taming The Beast*, ECONOMIST, Oct. 9, 2008, available at http://www.economist.com/specialreports/displaystory.cfm?story_id=12373748&CFID=34977787&CFTOKEN=18679340 (explaining that attributing the cause of the current economic crisis is dependent upon whether the initial premise is that "financial markets are efficient, or that they are inherently prone to irrational behaviour and speculative excess"); *Lehman's Rise and Fall*, *supra* note 105 (explaining that mortgage backed securities gained extreme popularity beginning in the mid-1990s). See generally *How it All Began*, *supra* note 105 (stating that between 1984 and 1988, the use of mortgage backed securities increased from 23 per cent to 52 per cent).

¹¹⁰ See Duncan Kerr, *Frozen Money Markets*, WALL ST. J., Nov. 5, 2008, available at <http://online.wsj.com/article/SB122583715119398473.html> (explaining that the market for commercial papers has recently reversed its contracting trend in the United States).

¹¹¹ *Id.* (stating that the U.S. commercial paper market has begun trading again).

¹¹² See *Coming Soon*, *supra* note 109.

¹¹³ See Glasner, *supra* note 65, at 38–39 (stating that successful intellectual property securitization transactions have involved pools of IP assets).

¹¹⁴ See *id.* at 37–38 (The default on bonds issued by BioPharma was a result of misplaced reliance on the sale of the drug Zerit, whose patent was isolated for sale instead of being bound in a diverse portfolio. Royalty Pharma later avoided the mistakes of Zerit by relying on a portfolio consisting of "13 biopharmaceutical patents and the rights to future patents.").

key to financial attractiveness for patent royalty backed securities is accurate value assessment of the underlying patents by investors.

Securitization plays an important role in our system by providing companies with greater access to credit while limiting risk for financiers, by providing tax incentives for issuers, and by creating the potential for large returns for investors.¹¹⁵ These are the main reasons why securitizing intellectual property has become an option companies are beginning to consider.

A. Benefits to the Company

Another reason securitization appeals to companies is that the transaction can be an off-balance sheet transaction.¹¹⁶ If the SPE was created as a trust, the originator could potentially keep the SPE from its balance sheets even if it still had significant control.¹¹⁷ However, the appeal of off-balance sheet transactions may wane as new regulations are put into place to prevent abuses, which have been attributed to current problems with financial markets.¹¹⁸

Since the SPE issues debt instruments, payments to investors are generally at a fixed interest rate for a fixed period of time.¹¹⁹

¹¹⁵ See Christopher L. Peterson, *Predatory Structured Finance*, 28 CARDOZO L. REV. 2185, 2202–03 (2007) (explaining that while focusing on mortgage backed securities, various methods of mitigating risks have been used to mold and develop securitization methods and transactions); see also COMPTROLLER OF THE CURRENCY, ASSET SECURITIZATION 2 (1997), available at http://www.dallas.fed.org/news/ca/2005/05wallstreet_assets.pdf (stating that originators are able to obtain more favorable rates); see also Vincent R. Reinhart, *Securitization and the Mortgage Mess*, WALL ST. J., July 18, 2008, available at http://www.aei.org/publications/pubID.28344,filter.all/pub_detail.asp (explaining that borrowers also have a tax incentive to make riskier investments on real estate by purchasing mortgages).

¹¹⁶ See Robert C. Pozen, *How to Revive Securitization Markets*, WALL ST. J., Apr. 29, 2008, at A11, available at <http://online.wsj.com/article/SB120943230824051491.html> (explaining that because trusts must be resold in the short term in order to retain the lower interest rates, these assets and liabilities may remain off the balance sheet).

¹¹⁷ *Id.* (explaining that banks and other entities keep trusts and other SBEs off the balance sheet by following the Financial Accounting Standard Board rules, which allows trusts sponsors to keep trusts or other SBEs off balance sheets even while they are directed to disclose any significant interests).

¹¹⁸ *Id.* (suggesting that the Financial Accounting Standards Board rules should be once again be revised to provide for a more stringent rule on keeping transactions off the balance sheet).

¹¹⁹ See Agiato, *supra* note 45, at 429 (“Companies can now borrow long term and at a fixed rate based on an assessment of the company’s royalty stream.”).

The securitization process creates a fixed interest payment schedule rather than a variable rate, allowing companies to more easily predict future expenditures.¹²⁰ This removes a level of uncertainty from the business planning process, which is appealing to both patent owning companies and investors.

Many companies face high start-up costs when it comes to manufacturing and developing their patented inventions or products using those patented inventions.¹²¹ The use of anticipated cash flows to lure investors could potentially help manufacturers bridge the cost gap between the idea and bringing the invention to market.¹²² Through securitization, manufacturers would get a lump sum payment in exchange for the promise of future payments. This money could be put towards further research, regulatory testing requirements, product development, manufacturing, and even funding the cost of bringing a product to market.

Another factor that could lead to increased patent securitization is the creation of regulated markets for intellectual property, providing information and access to trading.¹²³ The absence of a regulated market creates a lack of liquidity, making investments less attractive to investors and providing less transparency for investors.¹²⁴ Currently, private placements and

¹²⁰ *Id.*

¹²¹ See RIVETTE & KLINE, *supra* note 25, at 140 (demonstrating that patent securitization is a solution to high debt since companies may borrow against their patent portfolios and that companies may do this off the balance sheet to protect their stock prices). See also Darius Kharabi, *A Real Options Analysis of Pharmaceutical-Biotechnology Licensing*, 11 STAN. J.L. BUS. & FIN. 201, 204–05 (2006) (showing how the estimated cost of developing a new drug is \$897 million while the likelihood of bringing a drug to market is very low); Ryan E. Lee, Comment, *Dogfight: Criticizing the Agreement on Subsidies and Countervailing Measures Amidst the Largest Dispute in World Trade Organization History*, 32 N.C. J. INT'L L. & COM. REG. 115, 151 (2006) (showing how it takes several billion dollars just to design and prepare for production without taking into account the high cost of manufacturing); David Goodman et al., Comment, *Braving the Waters: A Guide For Tennessee's Aspiring Entrepreneurs*, 9 TRANSACTIONS: TENN. J. BUS. L. 367, 378–79 (2008) (illustrating that a manufacturing business requires greater startup costs than a service or retail business, which will generally include plant and equipment costs and will take longer to generate a profit).

¹²² See RIVETTE & KLINE, *supra* note 25, at 140.

¹²³ See Arrow, *supra* note 4, at 117 (observing the ease with which the value of some financial instruments may be found by referring to sources such as Bloomberg, Reuters, or *The Wall Street Journal*, and the current difficulty of determining the value of a patent).

¹²⁴ William J. Murphy, *Proposal For a Centralized and Integrated Registry for Security Interests In Intellectual Property*, 41 IDEA 297, 305 (2002)

private trades are most common, but that appears to be changing.¹²⁵ There are at least three companies that assist potential originators with structuring the royalty backed securitization transaction, financing, and security placement.¹²⁶ Other companies are helping establish a playing field where intellectual property information is more readily available, potentially leading to greater liquidity for intangible assets.¹²⁷ There are also companies that operate as licensing agents or IP brokers, performing an essential first step in enabling patent owners to monetize their patents by working to match buyers and sellers of patents or licenses.¹²⁸ This is important because licensing is a necessary step to establish regular cash flow.¹²⁹ There are several companies that provide on-line IP/technology exchanges, clearinghouses, bulletin boards, and innovation portals, providing potential purchasers with greater information on what technologies are available for purchase or for license.¹³⁰ There are also four companies working to establish an exchange for trading IP assets.¹³¹ It is estimated that in 2009 the Intellectual Property Exchange International will begin to offer financial products that track the intellectual properties of private and public companies, universities, and various industrial sectors.¹³² Finally, Ocean Tomo, LLC has already established

(illustrating the need for a secondary market to increase value for investors).

¹²⁵ See Arrow, *supra* note 4, at 114. See generally Nicole Chu, Note, *Bowie Bonds: A Key to Unlocking the Wealth of Intellectual Property*, 21 HASTINGS COMM. & ENT. L.J. 469 (1999) (discussing typical securitized transactions and securitization of intellectual property).

¹²⁶ See Millien & Laurie, *supra* note 29, at 82–83 (showing the three companies that provide royalty stream securitization for IP); see also alseTIP, <http://www.alsetip.com/> (last visited May 23, 2009); NexCen Brands Inc., http://www.nexcenbrands.com/about_profile.html (formerly Aether Holdings, formerly UCC Capital) (last visited May 23, 2009); Royalty Pharma, <http://www.royaltypharma.com/> (last visited May 23, 2009).

¹²⁷ See Millien & Laurie, *supra* note 29, at 78, 85.

¹²⁸ See *id.* at 79–81.

¹²⁹ See Arrow, *supra* note 4, at 117; see also Robert F. Reilly, *Intellectual Property Remaining Useful Life Analysis for Bankruptcy Appraisals*, 24-1 AM. BANKR. INST. J. 42, 42 (2000); Robert F. Reilly, *Intellectual Property Considerations in Pharmaceutical Industry Valuations*, 25-5 AM. BANKR. INST. J. 46, 49 (2006).

¹³⁰ See Millien & Laurie, *supra* note 29, at 82; see also FreePatentAuction.com, <http://freepatentauction.com/> (last visited May 23, 2009).

¹³¹ See Millien & Laurie, *supra* note 29, at 84; see also IXPI.com, Welcome to IPXI, <http://www.ipxi.com/> (last visited May 23, 2009).

¹³² See IXPI.com, IPXI Product and Services, <http://www.ipxi.com/products.html> (last visited May 23, 2009) (showing how other foreseeable products will

three patent-based stock indexes, which reflect the quality of patents for several publicly traded companies.¹³³

B. Mitigating Risk to Investors

If a patent holder attempts to securitize a single patent, investors may consider this to be too risky a venture. A newly issued patent would also be a very risky investment, as would investment in an already successful patent in use for many years. To mitigate risk for investors and to make the investment more attractive, an originator may offer a patent portfolio as the underlying asset to securitize.¹³⁴ Patent portfolios tend to increase the strength of individual patents by virtue of the scale of their combined impact.¹³⁵ A company that has a patent portfolio can exclude a larger proportion of competitors from practicing a larger proportion of inventions, potentially reaping greater royalties or infringement rewards.¹³⁶ Thus the existence of a patent portfolio should be an independent factor considered by investors because it strengthens a company's position for both offensive and defensive positions, making a more attractive

include a license exchange and trading of technology baskets); IXPI.com, Welcome to IPXI, <http://www.ipxi.com> (last visited May 23, 2009).

¹³³ See Millien & Laurie, *supra* note 29, at 85.

This emerging business model is the evolution of the established Patent Rating Software and Services IP business model described above. That is, once the entities offering these software tools and platforms realized that nearly 80% of the value of a U.S. publicly-traded company now comes from intangible assets, and that they possessed tools to measure the "quality" of arguably the largest part of those intangible assets, then it became clear that another potential source of revenue would be the creation of formalized stock indexes based on their existing software tools and platforms. Put in different terms, the Patent Rating Software and Services industry theorized that investing in stocks with valuable patents may allow investors to commit a meaningful and sustainable portion of their assets to IP and allow them to outperform other investment strategies. Thus, they sought out different algorithms to create baskets of stocks using the "quality" of a publicly-traded company's patents as the primary selection factor. Revenue from such an emerging business model includes the sale of equity research and the licensing of such indexes to ETF, mutual fund and other investable financial instrument issuers.

Id. See also OceanTomo.com, Ocean Tomo Indexes, <http://www.oceantomo.com/indexes.html> (last visited May 23, 2009).

¹³⁴ Ronald S. Borod, *What is the Future of Intellectual Property Securitization?*, INT'L FIN. & TREASURY, Apr. 30, 2006, at 4, available at <http://www.brbilaw.com/nr/pdf/articles/30apr06IntlFinanceTreasury.pdf>.

¹³⁵ Sivaramjani Thambisetty, *Patents as Credence Goods*, 27 OXFORD J. LEGAL STUD. 707, 731–32 (2007).

¹³⁶ See *id.*

investment.¹³⁷ While this would minimize risk caused by any one patent not being successful, determining the value of such a portfolio is complicated.

The current financial crisis is often tied to problems with collateralized debt obligations (CDOs). As is often mentioned, the biggest concern with CDOs is the current inability of investors, issuers, and rating agencies to accurately value the underlying assets.¹³⁸ The complexity of many mortgage-backed securities has led to confusion over the value of some of these investments.¹³⁹ Such value uncertainty has worked to chill investor exuberance in asset backed securities investment, leading to a virtual trading freeze.¹⁴⁰

Risk factors which are not easily quantifiable are viewed as a major impediment to widespread use of patent securitization.¹⁴¹ For these reasons, accurate assessment is necessary. Since the current mortgage crisis is related to investor and issuer inability to effectively determine the value of their investment's underlying assets, a patent portfolio would likely face the same problem. Anyone attempting to accurately assess the value of a patent portfolio faces numerous challenges including potential invalidity proceedings, potential infringement and infringement proceedings, obsolescence, or lack of demand for a license or the invention itself.¹⁴² However, to mitigate these risks, there are several methods which can be used to determine the value for a single patent, as well as for a portfolio of patents.

In 2000, one of the first patent royalty securitizations was initiated, highlighting how patent securitization is a new investment opportunity.¹⁴³ Patent securitization was still considered quite rare as of 2005, when The Drug Royalty Corporation and Wachovia Bank entered into debt securities agreement.¹⁴⁴ This newness and unfamiliarity ties in with

¹³⁷ *See id.*

¹³⁸ *See* Agiato, *supra* note 45, at 423, 428; *see also* *Coming Soon*, *supra* note 109.

¹³⁹ Emily Chasan, *Wall Street's Esoteric Assets May Be Trouble*, REUTERS, Nov. 8, 2007, <http://www.reuters.com/article/ousiv/idUSN0254788320071109>.

¹⁴⁰ *Id.*

¹⁴¹ RIVETTE & KLINE, *supra* note 25, at 140.

¹⁴² *See* Agiato, *supra* note 45, at 423, 430–32, 437; Raymond Millien, *The Evolving IP Marketplace*, 899 PRAC. L. INST./PATENT L. INST. 335, 341 (2007).

¹⁴³ *See* Borod, *supra* note 134, at 3.

¹⁴⁴ Sarah Mulholland, *U.S. ABS Primary Just Shy of \$10 Billion*, SECURITIZATION.NET, Mar. 14, 2005, <http://www.securitization.net/news/article.asp?id=284&aid=4307>.

investors' historical reluctance to invest in areas where there is little familiarity and risks can be potentially high. An accurate assessment of the value of intellectual property is necessary for many reasons, including: transaction support, bankruptcy, licensing, strategic alliances, tax assessment, infringement damages, intercompany transactions, attorney malpractice, accounting requirements, collateral-based financing, and regulatory requirements.¹⁴⁵ While assessing a patent's or a patent portfolio's value may seem daunting for investors, it is regularly done by courts to determine infringement damages or by banks and buyer companies in merger and acquisitions.¹⁴⁶ There are several companies providing valuation services, including determining whether a licensing agreement is credible.¹⁴⁷

VII. VALUING PATENTS

A patent defines the boundaries of the invention covered in the patent and entitles the patent holder to prevent others from encroaching on the borders of that territory.¹⁴⁸ Boundaries can easily be determined for a piece of real-estate but for a patent, the property reach is much less definitive.¹⁴⁹ Determining market value for a patent is not easy for existing technologies, and it can be even more complicated for emerging technologies, or patents owned by small start-up companies, or patents with future royalty stream expectations.¹⁵⁰

¹⁴⁵ SMITH & PARR, *supra* note 93, at 6–8.

¹⁴⁶ See Millien & Laurie, *supra* note 29, at 84 (showing how many companies exist which provide patent rating software and others which provide valuation services); Innovation Alliance.net, Our Principles, <http://www.innovationalliance.net/about-us/our-principles/> (last visited May 23, 2009) (explaining how courts have great discretion in valuing a patent for infringement damages); John R. Allison et al., *Software Patents, Incumbents, and Entry*, 85 TEX. L. REV. 1579, 1618–19 (2007) (providing an example of when an investment bank must assess the value of a patent for acquisition purposes).

¹⁴⁷ See, e.g., RoyaltySource.com, Agreements Database, <http://www.royaltysource.com/agreements.html> (last visited May 23, 2009); Recap.com, Deloitte – Recap Basic – Biotech Information and Analysis, <http://www.recap.com/> (last visited May 23, 2009); Windhover.com, About Us, <http://windhover.com/windhover/content/aboutus.aspx> (last visited May 23, 2009).

¹⁴⁸ See Chui, *supra* note 17, at 448.

¹⁴⁹ See Joseph E. Stiglitz, *Economic Foundations of Intellectual Property Rights*, 57 DUKE L.J. 1693, 1703 (2008) (discussing the difficulty of determining the boundaries of ideas as compared to the boundaries of physical objects, and the potential for overly broad patents inhibiting innovation).

¹⁵⁰ Thambisetty, *supra* note 135, at 720.

To determine the value of a patent or a patent portfolio, valuation experts can use several different methods. The first step is to establish what is being valued.¹⁵¹ This can be done by determining the nature of ownership in the property and the rights that the owner has in a particular property.¹⁵² Due diligence for a securitization transaction should involve independent scientists, patent attorneys, and valuation professionals.¹⁵³ Factors which should be covered in the due diligence evaluation should determine: 1) ownership of the patent and whether the security issuer actually owns it; 2) whether license agreements involving the patent actually cover the patent used as collateral; 3) the scope of the royalties being received; and 4) the potential for patent obsolescence, including the projected life of the patent, the ability for others to design around it, or for the licensee to manufacture without having to resort to the patented invention.¹⁵⁴

Valuation may become more convoluted depending on what is actually being sold and the nature of the investment.¹⁵⁵ The model employed to value the patent will have an accuracy that will vary with the use of the patent.¹⁵⁶ The three most common valuation methods are: 1) the income valuation approach, 2) the market valuation approach, and 3) the cost basis approach.¹⁵⁷

The income valuation approach relies on estimating income over a period of time.¹⁵⁸ It calculates the present value of future income streams using either discounted cash flow or an “option” approach.¹⁵⁹ The discounted cash flow takes into account the estimated income over the life of the patent and attempts to take

¹⁵¹ SMITH & PARR, *supra*, note 93, at 142–43.

¹⁵² *Id.*

¹⁵³ Agiato, *supra* note 45, at 437.

¹⁵⁴ *Id.*

¹⁵⁵ See Thambisetty, *supra* note 135, at 720 (stating that if anticipated economic benefits can be identified one may develop a credible estimation of value but if one is valuing a patent covering technology that is yet to be commercialized, valuation may become difficult).

¹⁵⁶ *Id.* (discussing the various models employed to value a patent, including what kind of patent can be accurately valued by each model, for example, the income valuation approach will be accurate if economic benefits can be identified but not if the patent is “unproven”).

¹⁵⁷ *Id.* at 720–21. See John E. Dubiansky, *An Analysis for the Valuation of Venture Capital-Funded Startup Firm Patents*, 12 B.U. J. SCI. & TECH. L. 170, 174–75 (2006).

¹⁵⁸ See Thambisetty, *supra* note 135, at 720.

¹⁵⁹ Dubiansky, *supra* note 157, at 175.

into account income risks.¹⁶⁰ The option approach treats the patented technology as an option which can be exercised if the benefits of using the patent outweigh the cost of production.¹⁶¹ This approach is popular because it is relatively simple to use and can be accurate for existing technologies, but it has its drawbacks in estimating values for emerging technologies.¹⁶²

The market valuation approach looks at similar transactions between similar patents to determine future value.¹⁶³ Market valuation is considered too inaccurate to be of practical use because each patent is unique and each patent transaction can differ greatly for even similar technologies.¹⁶⁴ Market valuation accuracy can be inconsistent because what is understood as “market value” may vary with the economic criteria and the type of sale.¹⁶⁵ The approach is complicated because of the many assumptions which have to be made for comparative sales, since most patent sales are through private transactions and will often involve the sale of an entire business.¹⁶⁶

In an attempt to mitigate some of the complexity of the market approach, both subjective and objective methods have been used. The subjective method involves input from experts on the content of its claims to determine the scope of the patent. Sales are determined based on estimates of damages from infringement on the literal scope of the patent claims and those potentially accessible through the doctrine of equivalents.¹⁶⁷ Statistical approaches include 1) correlating economic viability with the number of technological area classification given by the PTO; and 2) gauging patent viability with the number of technological publications on the patent and the number of publications citing the patent.¹⁶⁸ These numbers can be indexed and compared to

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² See Thambisetty, *supra* note 135, at 720.

¹⁶³ See Dubiansky, *supra* note 157, at 174.

¹⁶⁴ See *id.* See also Thambisetty, *supra* note 135, at 720.

¹⁶⁵ SMITH & PARR, *supra* note 93, at 143–46. Unless circumstances of an exchange are similar, the unique characteristics of the different types of exchange transactions (orderly liquidation, forced liquidation, auction, or a commercial transaction) make comparison difficult. *Id.*

¹⁶⁶ See Thambisetty, *supra* note 135, at 720.

¹⁶⁷ See Dubiansky, *supra* note 157, at 181. The doctrine of equivalents can find infringement if a technology is not exact but equivalent to the patented technology. *Id.*

¹⁶⁸ See Dubiansky, *supra* note 157, at 182. See also Thambisetty, *supra* note 135, at 734. The PTO classifies each patent into categories based on the technological areas covered; the greater the number of categories a patent

the scope of patents in comparable transactions.¹⁶⁹ While this method is still used, its reliance on experts and complicated statistics make it practically inaccessible for all but the most sophisticated investors.¹⁷⁰ If a public financial market for patents were available, the market value approach might become more accurate because of the greater availability of public information.

The cost basis approach is the most inaccurate approach to determining the value of a patent.¹⁷¹ It is based on the costs to research and develop the patent, and bears no relevance to the potential value that can be extracted from a patent.¹⁷²

From a legal standpoint, courts have used lost profits, or at the very least, a reasonable royalty rate standard for determining damages for patent infringement, and thus the value of the patent.¹⁷³ Lost profits are determined by looking at the infringer's sales and determining whether the patent owner would have made those sales but for the infringement.¹⁷⁴ Reasonable royalty rates should be calculated based on a hypothetical arm's length negotiation between a willing licensor and licensee.¹⁷⁵ Courts throughout the United States use a series of factors known as the Georgia Pacific factors to determine what a reasonable royalty rate is.¹⁷⁶ While not all factors are always applicable, royalty should be determined by examining:

1. The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established

covers, the greater it's economic viability. Dubiansky, *supra* note 157, at 182. It has been put forward that a company may achieve greater financial success by publishing research papers because financial companies use the quality and quantity of papers published as a means of gauging a company's knowledge assets. Thambisetty, *supra* note 135, at 734.

¹⁶⁹ See Dubiansky, *supra* note 157, at 181–82.

¹⁷⁰ See John S. Torkelson, *Calculating Reasonable Royalty Damages for Infringement of Early-Stage Technology Patents*, 4 SEDONA CONF. J. 47, 61–62 (2003) (explaining how to value a patent under the market approach and commenting that the process is a “complex” and “rigorous” one).

¹⁷¹ Dubiansky, *supra* note 157, at 174.

¹⁷² *Id.*

¹⁷³ See generally, *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1544–45 (Fed. Cir. 1995); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1078 (Fed. Cir. 1983).

¹⁷⁴ See *Rite-Hite Corp.*, 56 F.3d at 1545.

¹⁷⁵ See *id.* at 1554.

¹⁷⁶ *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970); see also *e.g.*, *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1372 (Fed. Cir. 2008) (noting that the Federal Circuit has also relied on the *Georgia-Pacific* factors regarding the reasonable royalty rate.).

royalty.

2. The rates paid by the licensee for the use of other patents comparable to the patent in suit.
3. The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold.
4. The licensor's established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly.
5. The commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter.
6. The effect of selling the patented specialty in promoting sales of other products of the licensee; that existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or conveyed sales.
7. The duration of the patent and the term of the license.
8. The established profitability of the product made under the patent; its commercial success; and its current popularity.
9. The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.
10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention.
11. The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use.
12. The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.
13. The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.
14. The opinion testimony of qualified experts.
15. The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount

which a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention – would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.¹⁷⁷

While the legal criteria may reveal another relatively common evaluation method, material which a court can order an aggrieved party to provide or infringer to reveal may not be available to investors, especially those looking to invest in an early stage technology or start-up company. Nonetheless, the lost profits calculation and the Georgia Pacific factors have been included to illustrate that many methods exist to determine the value of patents.

Patent valuation arising from legal proceedings provides potential investors with a significant method to gauge the worth of a patent if securitization is attempted after court proceedings have concluded. Not only do investors receive hard financial numbers from the court's own valuation but investors can be reassured that the risk of future litigation is reduced.¹⁷⁸ Patents which successfully survive invalidity proceedings will also be a less risky investment since a positive court decision is indicative of a patent's validity.¹⁷⁹

A. *Early Stage Valuation*

The cost in creating an invention and obtaining a patent bears no relation to the potential of a patented technology and can easily overvalue or undervalue it.¹⁸⁰ Thus the cost approach is an especially poor method of evaluating early stage technology.

The market approach should take into account that licenses between an originator and an SPE are generally not structured as would be an independent arm's length negotiation.¹⁸¹ There should be a business plan reflecting future cash flow expectations and value should not be based on past achieved cash flows.¹⁸²

¹⁷⁷ *Georgia-Pacific Corp.*, 318 F. Supp. at 1120.

¹⁷⁸ See Dubiansky, *supra* note 157, at 178–79. See also *supra* notes 171–77 and accompanying text (describing how the court determines the value of a patent).

¹⁷⁹ Dubiansky, *supra* note 157, at 179.

¹⁸⁰ SMITH & PARR, *supra* note 93, at 286.

¹⁸¹ *Id.*

¹⁸² *Id.* at 286–87.

The financial condition of the parties negotiating a license may be significant as it could be indicative of forced sale or negotiations conducted under pressured or less than equal circumstances.¹⁸³ Investors should also make sure they are aware of who the licensees are, especially since patent protections in foreign countries may not meet the protection standard afforded in the United States.¹⁸⁴ Investors should consider the life cycle of both the royalty agreement and that of the patent itself since expiration of either may lead to a greatly reduced return potential.¹⁸⁵ Production cost and time required to get the invention to the market is another consideration for the investor, since components can more easily be integrated into existing products or production lines than would an invention yet to be produced.¹⁸⁶ Factors such as cross-licensing patents can result in lower licensing revenues for investors.¹⁸⁷

Again, the income approach is the most accurate method of evaluating early-stage technology, but must also take into account any additional development costs to produce the invention, the timing of development costs or any mixing with other patents.¹⁸⁸ The income approach should take into account cash flow projections for potential optimistic success, conservative results, and complete failure.¹⁸⁹ Even if a patented invention is successful, cash flows and returns to investors will generally start slowly, accelerate with success, and then plateau as the technology matures.¹⁹⁰

VIII. CONCLUSION

Patents provide an undeniable value to the economy and their importance has been increasing steadily. However, companies

¹⁸³ *Id.* at 287.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.* at 288.

¹⁸⁶ *Id.*

¹⁸⁷ *See id.* (explaining cross-licensing, or “grant-backs,” whereby the patent-holder agrees to accept a lower value in exchange for improvements to the property).

¹⁸⁸ *See id.* at 289 (describing how development costs will include research, engineering, and development of the manufacturing processes – which will vary with the type of industry – and the need for regulatory compliance, and that if the current patent is used in conjunction with another existing patent, the value of the existing patent may be diminished and should be reflected as a cost).

¹⁸⁹ *Id.* at 289–91.

¹⁹⁰ *Id.* at 290–92.

face several obstacles in bringing a patented invention from the idea phase to a finished product, including financing the costs. Securitization offers a means of bridging the cost gap. If relatively accurate valuation measures can be obtained, and the continued effort to establish primary trading markets is successful, patent securitization could prove to be beneficial to investors and patent owners in the very near future. A significant amount of data is available for investor use and the volume and accuracy of this information is growing. The potential would seem too great to allow the mistakes of the mortgage market to hinder this potentially lucrative and beneficial financial innovation from becoming a viable solution to funding inventiveness and innovation.