

## Patent Backed Securitization: Blueprint For a New Asset Class

By David Edwards

*“Just as the electronics industry was formed when the vacuum tubes were replaced by transistors, and transistors were then replaced by integrated circuits, the financial services industry is being transformed now that securitised credit is beginning to replace traditional lending. Like other technological transformations, this one will take place over the years, not overnight. We estimate it will take 10 to 15 years for structured securitised credit to replace to displace completely the classical lending system -not a long time, considering that the fundamentals of banking have remained essentially unchanged since the Middle Ages.”*

Lowell L Bryan

**Abstract:** The next several years will likely see the creation of a new class of asset backed securities with intellectual property (IP)--chiefly patents, as the underlying asset. A confluence of factors including: increase in technology creation/growth in patents, an environment of tight capital markets especially in the venture capital and private equity arenas (a factor that has been exacerbated by the fallout from the bursting of the technology bubble), and the growing realization that intellectual property in general and patents in particular represent sources of strategic advantage that when viewed as financial assets can greatly impact market value, have combined to set the stage for this market to develop. This article will explore the current state of the IP backed securitization industry with particular emphasis on the patent backed market, present a strategy and framework for companies, investors, and finance professionals to promote, develop, and profit from the growth in patent backed finance and dissect and analyze two deals based on patents.

### Development of the Securitization Industry

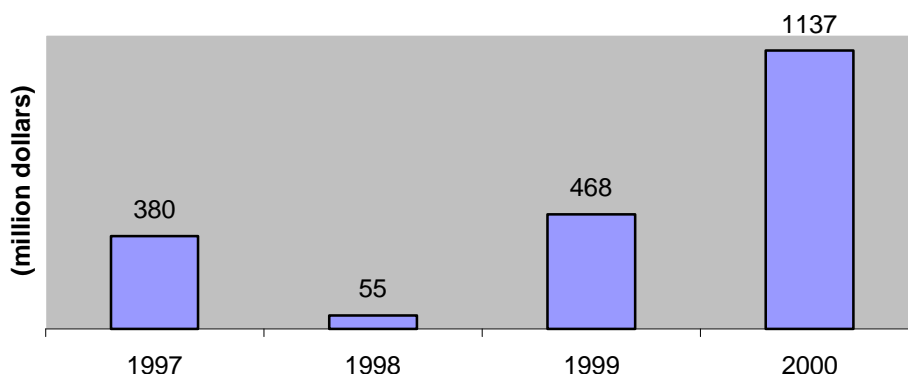
Securitization is defined as “a device of structured financing where an entity seeks to pool together its interest in identifiable cash flows over time, transfer the same to investors either with or without the support of further collaterals, and thereby achieve the purpose of financing. Though the end-result of securitisation is financing, but it is not "financing" as such, since the entity securitising its assets it not borrowing money, but selling a stream of cash flows that was otherwise to accrue to it.”<sup>1</sup> Asset securitisation, in its simplest form, is the conversion of assets or cashflow into marketable securities (typically rated) called Asset-Backed Securities ("ABS"). The conceptual development of the ABS market dates back to the early 1970s when the Government National Mortgage Association ("Ginnie Mae") issued Ginnie Mae Pool No.1, which were securities backed by residential mortgages. In 1981 the Chrysler Financial Corporation faced with a deep recession in the domestic economy and unable to fund via the commercial paper market, issued its receivables in the form of securities. Since then the global public ABS market has risen to an estimated \$584 billion in outstanding balances.<sup>2</sup>

### Characteristics of the IP-Backed Securitization Market

IP-backed securitization is a recent phenomenon and the total market to date remains relatively small. In 1997 there were \$380 million in known IP backed securitization transactions. In 2000 there were \$1.13 billion. The total known transaction volume in those years was greater than \$2 billion. Between 1990 and 1998, patent licensing revenues in the United States increased by approximately 700% to more than \$100 billion showing a compounded annual growth rate of approximately 28%. The total asset value of patents worldwide is estimated to be one trillion dollars.<sup>3</sup> There is clearly room for growth in this market. The following chart and tables details the evolution and segmentation of this market from 1997-2000.

**Chart 1**

**Known Volume of IP Backed Securitization Transactions**



Sources: "From Ideas to Assets", p. 605; author's research

**Table 1**

**Known Volume of IP Securitizations by Industry**

Industry	Issuance \$MM	Percent of Total Issuance	Number of Transactions	Percent of Number of Issues
Film	865	42%	2	10%
Music	446	22%	14	70%
Sports	315	15%	1	5%
Fast Food	290	14%	1	5%
Pharmaceutical	100	5%	1	5%

Apparel	24	1%	1	5%
<b>Total</b>	<b>2040</b>	<b>100%</b>	<b>20</b>	<b>100%</b>

Sources: “From Ideas to Assets”, p. 605; author’s research

**Table 2**

**Known Volume of IP Securitizations by Placement Agent**

<b>Placement Agent/Underwriter</b>	<b>Issuance (\$MM)</b>	<b>Percent of Total Issuance</b>	<b>Number of Transactions</b>	<b>Percent of Number of Issues</b>
Bear Stearns	640	31%	2	10%
Bear Stearns/Chase Securities	540	26%	1	5%
Morgan Stanley/Swiss Re New Markets	290	14%	1	5%
The Pullman Group	260	13%	6	30%
West LB	100	5%	1	5%
CAK Universal Credit Corp	93	5%	7	35%
Royal Bank of Scotland	87	4%	1	5%
Global Entertainment Finance	30	1%	1	5%
<b>Total</b>	<b>2040</b>	<b>100%</b>	<b>20</b>	<b>100%</b>

Sources: “From Ideas to Assets”, p. 605; author’s research

The vast majority of issuance by dollar volume occurred in the film industry, followed by music (although by transaction number there have been far more in the music industry). Film catalogs represent large, predictable assets with clearly defined historical cash flows and relatively little variance. Similarly, future flows transactions backed by film catalogs tend to show less volatility as the film industry has followed the same pattern for many years where a few blockbusters (perhaps 5% of the total releases) finance the rest of the releases. This “all or nothing” type of economics (similar to the pharma industry) exhibits the same log normal distribution that call options and technology do (clustering around zero, vast majority of little value, and small percentage with high payoff). The few hits pay for the many flops and the catalogs behave like a portfolio of assets whose diversification smoothes the volatility of revenues.

In terms of underwriters, aside from a few forays by Wall Street (Bear Stearns, Royal Bank of Scotland) and the notable Arby’s franchise fee backed deal that Morgan Stanley and Swiss Re New Markets completed in November 2000, the vast majority of securitizations have been underwritten by three specialty finance firms (CAK Universal Credit Corp., the Pullman Group who is credited with the first IP backed transaction, the now famous “Bowie Bonds”, and Global Entertainment Finance), and Royalty Pharma who completed the only known patent royalty securitization.

## **Benefits of Patent Backed Financing**

### Advantages for Patent Holders

1. *Limited Credit Exposure.* The borrower is shielded because the patent is treated as a severable asset by the lender and the loan itself is usually non-recourse. Asset securitizations typically involve the creation of a bankruptcy remote vehicle that minimizes the credit exposure of the borrowing entity. The credit of the entity becomes less relevant as investors as credit analysts and lenders concern themselves more with the quality of the underlying asset rather than the creditworthiness of the borrower.
2. *Lower cost of Capital, Improved Capital Structure and Ratings.* Assets delinked from the sponsoring corporate can access the capital markets at higher-grade debt levels. Lowering debt coupons and moving debt off balance sheet helps reduce overall debt service and improve coverage ratios.
3. *Greater Leveraging of IP.* IP remains an underutilized asset. IP backed securitizations allow for greater incremental capital to accrue from these assets
4. *Acquisition Tool.* May be used for both corporate and IP portfolio targets as a source of funds in an acquisition. Acquirers may be able to issue debt collateralized by IP in a target company to achieve an IP leveraged buyout.

### Advantages for Investors, Traders and Speculators

From the investor perspective, a patent backed transaction decouples technology risk from management and other operational risk. It also allows investors direct participation in narrow technology niches or specific patents depending on the structure of the vehicle. Finally, this structure offers a more finely tuned investment for a venture capitalist in that he can invest in the IP rather than the business and get quicker liquidity than through the usual sale or IPO. There are limitless applications of this type of financial technology including: SWIPS (IP Swaps) where cash flows from non-correlated technology could be created, novel hedges that diminish technology specific risk as opposed to corporate risk, and the opportunity to speculate in a particular technology niche or patent without having to buy into the whole business. Many investors would prefer to buy shares in or options on a basket of technologies rather than in a basket of companies. These types of instruments are distinguished from the now popular industry holders created by Merrill Lynch because the holders still contain all the business risks (market risk, operational risk, financial risk) of the companies they comprise. The potential to strip out these risks and allows, investors, speculators, and traders the opportunity to bet on or hedge with the underlying IP.

These benefits accrue from the fact that investors are buying the cash flows derived from the licensing of the technologies rather than shares in the companies themselves. The decoupling of IP assets from the business, financial and operational risk of their owners could have a salubrious effect on the market for and development of technology. Part of the cause of the excess

speculation in the late 90's and the accompanying rise in volatility and risk, stemmed from the inability to value the IP owned by young technology companies. The creation of a secondary market for IP and the parallel rise in insurance products for this market, will no doubt decrease volatility and risk and thus increase investment and return while lowering cost of capital.

#### Advantages to Originators, Underwriters, Lenders, and Insurers

Early entrants to the patent-backed securitization industry may enjoy the opportunity to claim prime territory in a burgeoning market. As this market grows, the pioneers with the most experience and credibility will be in a strong position to control the flow of deals. The payoff from taking the risk of playing in an emerging asset class could be substantial as this market develops. The lenders and insurers similarly have a chance to become leaders in a promising new area of corporate finance. Finally, the PBS market affords them greater diversification in their investment portfolio.

#### **Two Types of Patent Backed Transactions:**

There are two basic types of patent backed transactions that already have historical precedent: 1) loans collateralized by title to a patent 2) securitizations of cash flows emanating from patent based licensing agreements There are many additional potential ways these transactions could be structured, two of which will be described in the appendix to this article.

The first type of patent backed transaction is a loan with the patent title functioning as the collateral. In this case, the lender loans at a loan to value ratio of between 25-30% of the appraised value of the asset (depending on the asset quality, creditworthiness of the asset holder, and other risk factors). The appraisal method relies on a dynamic, options pricing based software called TRRU<sup>®</sup> (for Technology Risk Reward Unit) that incorporates live market data from publicly traded, microcap, pure play companies from around the world to estimate the current value of the asset. Based on the principal that a patent itself is a derivative instrument and has a similar payout structure to a call option (in that the patent is the rights to future, risky cash flows) the appraisal model for the asset uses a variant of the Black Sholes equation. There is numerous academic and industry support of this thesis notably the assertion by Robert Merton that Black-Sholes can be applied to non-traded asset classes including patents<sup>4</sup> and Sherer and Harhoff's discussion of the distribution of technology values as log normal rather than Gaussian (bell curve).<sup>5</sup>

The loan is insured by an intellectual property value insurance policy issued by a Louisville based IP insurance firm, and carried by XL Capital. XL also provides a financial guarantee that insures that the lender will have principal and interest payments met. This effectively transfers much of the risk to the borrower and insurer, giving the lender a low risk transaction and a strong impetus to play in this market. The overcollateralization provided by the small loan to value ratio further enhances the credit of the offering.

The asset holder is happy because he has raised debt capital against the value of his asset without relying on the credit of his firm. The typical profile for such a borrower is a technology rich, but cash poor company or inventor who needs funds to develop and commercialize this technology but is either unable or unwilling to tap the private equity, angel, or venture capital markets

because he does not want to give up equity. This allows him to further develop this technology and to be in a stronger position when/if he does decide to seek venture capital.

The second type of transaction is a patent-backed securitization, where the cash flows from a patent are turned into marketable securities. In a patent-backed securitization the patent is the underlying asset that generates cash flows as defined by licensing agreements. The securitizations can either be asset backed (based on guaranteed payments as defined by a licensing agreement) or future flows (based on projected royalty streams). A future flows securitization is generally riskier, although the risk may be decreased based on good historical data and accurate royalty forecasts.

The structure for this type of deal is a special purpose vehicle (SPV) used in other asset backed securities which functions as a legal, bankruptcy remote entity whose main purpose is to collect and administer the cash flows to the debt and equity holders. Though the varieties of capital structure are many, most would involve some combination of debt (either one class or multiple classes with senior and subordinate) and equity. The issuer would typically become one of the equity holders. The equity holders would receive any residual cash flows after the bondholders are paid off. A structure of senior-sub debt and equity along with over collateralization form the internal credit enhancement. External credit enhancement could come from financial guarantees and reinsurance.

## **Two Case Studies**

### **A Patent Backed Loan**

GIK Worldwide is a small company based outside San Francisco. They are the patent holders of a groundbreaking technology that delivers high-speed broadcast quality video conferencing over twisted copper wire. Like many such technology rich companies, they were running out of cash and either did not want to or could not tap the venture capital markets. Taibbi Ltd, a Boston based boutique investment bank and IP management consultancy put together a financing package that raised \$17MM in debt provided by Pitney Bowes Capital based on an appraised value of \$57MM. Pl-x provided the valuation, Intellectual Property Insurance Services of Louisville, KY provided IP value insurance to protect the lender against loss in value of the patent, and XL Capital of Bermuda provided the financial guarantee. The entire process took less than 90 days to complete.

### **A Patent Backed Securitization**

The giant new medical building rising at Yale University could be called the research complex that Zerit built. The significance of the \$176-million project isn't only that about a third of the money comes from patent royalties on a leading anti-HIV drug.

The classroom and research complex, the Congress Avenue Building, is also the most visible result of a new financing technique that some universities are using to help guarantee their returns on the royalties they earn from patents. Yale traded away rights to years' worth of royalty payments on Zerit for an upfront payment of \$115-million for capital projects on its campus. About \$60-million of the money is going into the new medical complex.

Interest in the technique is being stirred primarily by a small group of companies that have been promoting the idea among universities and their inventors. One of them, the Swiss-American company Royalty Pharma, which worked with Yale, says it has talked with more than 120 American institutions in the past four years.

Their push comes as universities themselves are paying greater attention to the payoffs from patenting and licensing, and growing more sophisticated in their business approach. American universities now collect more than \$700-million a year in royalties on patents and execute more than 3,300 licenses a year.

Monetizing adds a new wrinkle to traditional licensing deals. Typically, universities license rights to their patents to companies and are compensated based on a percentage of sales of the product developed with the invention. If the product takes off, the universities make money for years to come; if it doesn't, they don't.

In a monetizing deal, a third party steps in, estimates the value of the royalties over several years, and then pays that amount to the institution that owns the patent. The institution gets a guaranteed amount of money, although it may be more or less than what the royalties would have been. The royalties are then paid to the third party, who hopes that, ultimately, their value is greater than what was paid to the institution. Since universities share royalties with their inventors, the deals can involve both parties or just one party.

"It's the difference between taking the money as it comes in, versus taking the money and readily investing it," says E. Jonathan Soderstrom, managing director of the Yale Office of Cooperative Research.<sup>6</sup>

The following deal sheet details the transaction:

Issuer: BioPharma Royalty Trust, A Delaware Business Trust, Owner Trustee

Originator: Pharmaceutical Royalties LLC, a Delaware Limited Liability Company

Seller: "Major US" University (AAA S&P rating)

Securities Issued: \$57.15 million senior loan, \$22.0 million mezzanine loan, \$21.16 million equity

Underwriter: Royalty Pharma AG

Credit Enhancement: Overcollateralization (from mezzanine notes and equity for senior notes)

Collateral: 70% royalty interest in the patent and licensing agreement between University and Bristol-Myers Squibb Company (AAA rating) pertaining to the anti-retroviral use of 2', 3'-dideoxy, 2'3'-didehydrocytidine, and 2', 3'-didehydrothymidine and compositions described in the U.S. patent applications serial numbers 911,200 (9/24/86) and 942, 686 (12/17/86). Zerit is the BMS brand name for this application.

Asset Coupon: LIBOR—Hedge Agreement, swap to fixed rated rates with West LB rated (AA+/Neg/A-1+)<sup>7</sup>

### **Impediments to Success**

Douglas Elliot estimates that the face value of the global market in IP royalties is between \$550 and \$650 billion and if viewed as an equity asset would have a market value of around \$800 billion.<sup>8</sup> Why then have only about 1% of these royalties been securitized? Elliot suggests that the differing perception of risk between licensor and licensee is a primary reason for this. Another factor may be the structure of the licensing transaction itself. Most licensing deals are comprised of an upfront fee and royalties based on an industry standard. There may be additional terms for guaranteed minimum payments and milestones. Still, it is not uncommon for up to 90% of the transaction to be backend loaded into what is by definition an indeterminate quantity of royalties. This structure reflects the inability of the parties to value the underlying asset. A risk sharing arrangement typified by the above-mentioned structure is the necessary result. This type of structure makes quantification of cash flows and the volatility of those cash flows more difficult thus impeding their securitization. This type of transaction structure also results in greater frictional costs incurred by the management and monitoring of the royalty stream. If the parties could better agree on the market value of the underlying asset, they could structure the transaction such that the licensor receives a more defined series of payments such as one pays on a mortgage or auto lease.

### **Final Thoughts**

Patent royalty securitization allows for an unbundling of risk that allocates capital more efficiently and parcels risk into smaller, more discreet units that allows investors and speculators a better risk /reward profile. This a la carte approach to risk whereby investors can make more refined bets on technology will increase investment capital to the technology sector and thus increase technology development and innovation. A final, and perhaps unintended consequence of patent royalty securitizations and collateralization may be an increase in the liquidity of IP caused by the need to liquidate IP assets in the event of a loan default. Just as the sale of foreclosed houses and cars at auction was greatly expanded as a result of ABS issuance backed by home and auto loans, the growth in patent backed securities may force a similar result.

## **Appendix: Alternative Structures for Patent Backed Securities**

### **Collateralized Debt Obligations**

The fastest growing sector of the asset-backed securities market is the collateralized debt obligation (CDO) market. CDOs are securities backed by a pool of diversified assets and are referred to as collateralized bond obligations (CBOs) when the underlying assets are bonds and as collateralized loan obligations (CLOs) when the underlying assets are bank loans. A patent-backed CDO would bundle a diversified pool of loans based on patents and sell them off in tranches to investors according to their risk preference. The loans could be packaged in many ways. Some possible profiles are by: interest rate, industry, risk profile, stage of technology development, and technology niche.

### **Technology Unit Investment Trust (TUIT)**

A Technology Unit Investment Trust (TUIT) is a bundled group of technology assets (similar to REITS). The benefits to the investor are twofold: to diversify away risk by combining into one

security similar technologies whose returns are not directly correlated and to make investing in raw technology available to a broader audience of investors.

Companies with technologies that are not currently generating cash could submit them for inclusion in a TUIT. TUITs could be assembled grouped around technology themes. 100 patented products relating to Silicon Galadium Arsenide semiconductors, or 40 new kinds of wound closing glues, or 70 new materials relating to packaging perishable goods, or 15 internet-based business process patents could each be bundled into a single asset labeled with its technology theme. The technology-owners would not relinquish ownership of their technology, and the exchange where the TUIT are traded would not purchase the technologies, so no principal risk is incurred. Instead, each technology owner would retain an ownership interest in the TUIT equal to the TRRU valuation of the asset(s) he/she/it contributed divided by the sum TRRU valuations of all assets in the TUIT.

Investors could then purchase shares in each TUIT, representing fractional ownership in the Instrument and a fractional claim to cash flows that result from future licenses. Technology contributors receive cash from investors according to their ownership interest in the TUIT.<sup>9</sup>

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<sup>1</sup> Vinod Kothari, “Securitisation: The Financial Instrument of the New Millennium” (Calcutta, Academy of Financial Services, 1999).

<sup>2</sup> David Basra, Robert H. Lia, Maralyn Fichte, “ Asset Securitisation”

<sup>3</sup> Bernhard H. Fischer, “New Patent Issue: BioPharm Royalty Trust”, “From Ideas to Assets: Investing Wisely in Intellectual Property”, Bruce Berman (editor), (New York, John Wiley & Sons, Inc.) pp. 484.

<sup>4</sup> Robert Merton “ Application of Options Pricing Theory: Twenty Five Years Later” The American Economic Review, June 1998.

<sup>5</sup> F.M. Sherer and Dietmar Harhoff “Technology Policy for a World of Skew-Distributed Outcomes”, Elsevier Science, 2000.

<sup>6</sup> Goldie Blumenstyk, “Turning Patent Royalties Into a Sure Thing”, The Chronicle of Higher Education, October 5, 2001.

<sup>7</sup> Fischer ,Op Cit, pp. 490-491.

<sup>8</sup> Douglas Elliot, “From Ideas to Assets: Investing Wisely in Intellectual Property”, Bruce Berman (editor), (New York, John Wiley & Sons, Inc.)p. 467.

<sup>9</sup> Alex Arrow, “Managing IP Financial Assets”, “From Ideas to Assets: Investing Wisely in Intellectual Property”, Bruce Berman (editor), (New York, John Wiley & Sons, Inc.), pp. 132-133.