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Biomedical Patent Securitization in Taiwan

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Abstract
The currently funding institutes such as banks are hesitated to undertake the pledging business on intellectual property, it could be due to the lacking confidence on intellectual property or the overestimation of the high uncertainty of intellectual property, the inefficiency to cash out the pledged intellectual property assets etc.. In this article, the previous cases on intellectual property securitization worldwide were studied, in addition, the issues and suggestions for the future legislation are reviewed, and the adoption of the current finance asset securitization is discussed. My personal suggestions on securitization legislation for biomedical patent are stated and specifically explained the protection mechanism. Considering the characters of biomedical patent (such as the huge investments on equipments, long research period, complicated clinical trials and procedures, strict medicinal laws on manufactures and sales certificates approval, marketing and advertisement regulations etc.), parties involved in the securitization mechanism will not risk their qualified patents for the short term cash flow, which means lower opportunities on fraud or conspiracy comparing to the financial assets securitization. The overseas fund raising and guarantee institutes were presented. Sincerely hope this article shall contribute to the future legislation on intellectual property securitization, starting with biomedical patent securitization.

Key words: Intellectual property; Securitization; Fund raising; Asset transfer; Biomedical patent

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INTRODUCTION
There are various financial arrangements for companies to convert biomedical patents into cash, such as sales from the derivative products or patents, patent licensing, joint ventures based on patent as pledges assets, strategic alliances, spinning out to form a new company, donation of patent for tax write-offs and securitization. However, the innovative financial tool on patent securitization does attract attention as shown in Figure 1, as securitization is one of the significant advancements in finance management, as a technique which revolutionized the bank as an intermediate. Securitization is also a funding mechanism. Biomedical technologies advanced human life and the innovations did generate benefits towards the better quality of human life. As an updated financial tool, intellectual property backed asset securitization will enhance the development of technologies. Intellectual property backed asset securitization is a newer type of asset backed securitization, providing borrowers with cheaper sources of funds. Furthermore, borrowers, originators, investors will benefit from the advantages of this structured financial tool, since intellectual property backed asset securitization leads to a more efficient financial market and reduce costs of intermediation for both loan originators and borrows.

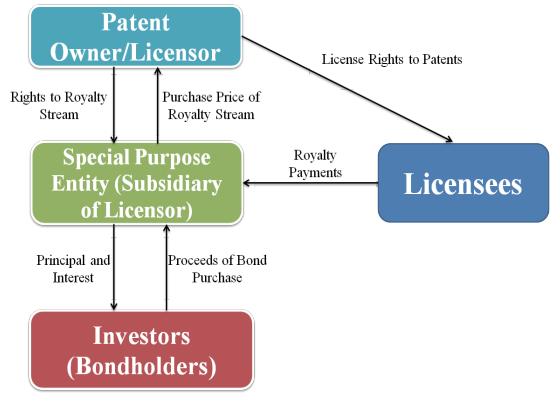

Figure 1
Patent Securitization Principle (Fabozzi, 1998, p.58)

There are many concerns for the securitization implemented for intellectual properties, such as the statutory and legal mechanisms which presently do not exist in Taiwan, however, the asset-backed securitization on real estate and financial derivative products are already launched in Taiwan. For biomedical patents, securitization is a newer funding source and the biomedical patents have more profound foundations while comparing to patents in other industries. Regarding the foundations for biomedical patents, at least, a physically existed biomedical company with factory or laboratory is a must, and the biomedical technologies somehow build up higher competitive barriers as technologies development is a time consuming with huge capital demanding business.

Although there already are existed various innovative financial derivative products and flexible financial measures for intellectual properties, intellectual property backed asset securitization offers unique benefits, such as funding with lower cost for individual patent owner or company assignees, which is a trendy fashion for capital management. After reviewing cases of American intellectual property securitization, the successful factors for intellectual property securitization include: (1) the securitized assets generate stable and predictable cash flow and (2) the pooled assets avoid the deterioration or poor performance of one single asset within the assets pool. In addition, there are credit enhance mechanism to improve investors' confidence. Due to the unique character of intellectual property, the due diligence for securitized assets will be reviewed with extra care to avoid the risks on investment, such as review of the historical transactions records, licensing agreement, usage rights and limitations, registration status in governmental patent and trademark office, the value of the assets, market trends and market potential risks, ownership, ongoing law suits or the potential of future law suit, etc..

Considering the risk management mechanisms during the intellectual property asset backed securitization and the benefits for the parties involved in the securitization process, in Taiwan, due to the unique features of intellectual property and the economical environment without secured policy protection, the capital market inevitably hesitates to participate in intellectual property securitization. Therefore, studies on how to design the infrastructure of intellectual property and value determination of intellectual property, how to cost down the expenses for processing the intellectual property securitization, and creating the incentive for the intellectual property securitization are discussed.

1. WHY ARE WE INTERESTED IN PATENT SECURITIZATION

In Taiwan, patent securitization has not yet been legislated and the related legal issues can only apply under the "Company Act", the "Securities and Exchange Act", the "Financial Asset Securitization Act" and the "Clauses of the Real Estate Securitization Act". Based on the custom in Taiwan, a specific law and regulation on patent securitization is highly recommended for the better development of patented technologies, with the hope to extend to all kinds of intellectual properties.

There is also no specific law or regulation in the United States for patent securitization, and the uniform commercial code and securities exchange act are the current legal bases. Regarding intellectual property regulations in the United States are the Copyright Act, the Patent Act, and the Lanham Act to state the rights of intellectual properties. The registration for intellectual properties transfer is recommended as stated in the 35 U.S.C. 261 Ownership and assignment,[1] "An assignment, grant or conveyance shall be void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent and Trademark Office within three months from its date or prior to the date of such subsequent purchase or mortgage." In particular, the individual state in the United States is allowed to have its own law and regulation.

Japan is similar to the United States i.e., that the registration system for assets conveyance is also applied (Huang, 2007, pp. 239-243, 249).There are several theories discussing how to define the assets conveyance. A registration system with the public announcement is preferred to protect an innocent third party from double selling. There are several research companies receiving funding from the Japanese Policy Investment Bank by providing intellectual property rights as financial guarantees (Japan Economic Industry Province), which indicates intellectual property securitization is already a trendy fashion in the Japanese capital market during these

[1] Retrieved on 26 Apr 2012 from http://www.uspto.gov/web/offices/pac/mpep/documents/appxl_35_U_S_C_261.htm

years. Japanese trust law was amended to accommodate intellectual property rights in 2004. The other law and regulation related to be applied for the securitization in Japan are the Japanese Patent Act (Ono, 2001, p.4), Japanese Bankruptcy Act (specifically Article 53: Bilateral Contract) and civil law section IV Assignment of claims in Japanese civil law (specifically Articles 466-473), such as, Article 466 (2) which states "… where the parties have manifested their intention to the contrary; provided, however, that such manifestation of intention may not be asserted against a third party without knowledge"; Article 469 elaborated "The assignment of any debt payable to order may not be asserted against the relevant obligor or any other third party unless the certificate representing such claim is tendered to the assignee with the endorsement of the relevant assignment".[2]

In Taiwan, for the time being, the applicable law and regulation to be applied for the issues involved in securitization are the Patent Act, Civil Act, Company Act, Securities and Exchange Act, Trust Act, Financial Asset Securitization Act, Clauses of the Real Estate Securitization Act, Bankruptcy Act, etc.. According to Taiwan patent act, Article 6 "… patent right are both assignable and inheritable… In the case of taking a patent right as the subject of a pledge, the pledgee shall not be allowed to put the patent under pledge into practice, unless otherwise provided for as a covenant in an agreement;" Article 59 "The assignment, trust or licensing made by the patentee of the patent right of an invention to another person to practice the invention, or the pledge created on the patent by the patentee shall not be asserted against any third party, unless it has been registered with the Patent Authority;" Article 62 "A joint-owner of an invention patent shall not assign or entrust his/her share thereof to another person or create a pledge on the same patent, without the consent of all the other joint-owners;" Article 74 "The grant, alteration, extension, prolongation, assignment, trust, licensing, compulsory licensing, revocation, extinguishments or pledging of an invention patent right as well as other matters which should be published, the Patent Authority shall effect such publication in the Patent Gazette."[3]

The above mentioned articles in Taiwan show that the law in individual countries are getting internationally harmonized, since the concepts and principles in the existing law and regulations are somehow similar to in the United states, Japan and Taiwan, although the applicable laws are legislated in different acts or chapters with minor differences to cope with local environment. Regarding the conveyance of the intellectual property rights, registration with the patent and trademark office is recommended and the protection for the innocent third party shall be pertained, in case the complicated patent right assignment involved.

Why are we interested in patent securitization? Intellectual property rights have suffering enormously in raising funds from the capital market due to its intangible character and obscure value determination. Therefore, how to create a new method for fund raising in financial market has become an important issue for governments and intellectual property owner. To solve the above mentioned problems, Taiwan should apply the concept of "the intellectual property securitization", which is rapidly expanding in recent years worldwide. According to research abroad, "intellectual property securitization" in raising funds in financial market will create many benefits, however, at the same time, there are also many risks.

There is no doubt that optimization of return on investment is the main goal for the investor and the owners of patents and technologies. There are various channels for optimizing cash flow, such as reducing expense by reducing the number of employees or office relocating to tax-exempt areas. More aggressive actions can also be taken, for example, auditing existing licensees or seeking additional licensees is also encouraged to improve cash flow. However, applying modern financial instrument-securitization can provide a new measure of capital management through intellectual properties securitization. In this research, we discuss mainly patent, more specifically on biomedical patents.

Intellectual property backed asset securitization allows securitizors to free up funds tided for already outstanding loans and meet the funding requirements for new loans. Furthermore, the intellectual property backed asset securitization is not subject to regulatory taxes, therefore, intellectual property backed asset securitization can become a more attractive source of funding and liquidity when compared to traditional deposits. In most cases, intellectual property backed asset securitizations are required to carry a higher credit rating. How to achieve this high credit rating? This can generally be achieved by applying a bankruptcy-remote vehicle such as a trust that acts as a repository for the assets and the issuer or obligor of the securities provides funding for those assets. This improvement allows the originator to save on funding costs and substantially broaden the available investor base.

As a financial opportunity for the owner or inventor, intellectual property backed securitization offers accountable benefits, for example, a greater amount of capital as compared to loan proceeds, it is an immediate capital source without waiting for the realization of ongoing royalty in the future with fixed interest rate Funding raised from securitization is tax-waived and it is a non-recoursed funding vehicle for the originator since this security sale is a type of irrevocability, in addition, there is

[2] Retrieved on 28 Apr 2012 from http://ishare.iask.sina.com.cn/f/12992168.html?from=like
[3] Retrieved on 28 Apr 2012 from http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=J0070007

a *de facto* insurance policy for the value of future royalties in most of cases. The most important consideration is that the owner still retains ownership of the intellectual property while the buyer is on the debt side. Credit rating can be higher than the originator's rating because of the quality of the assets, credit enhancement mechanism and the isolation design for the assets in a bankruptcy-remote entity. After the recent global finance recession, promoting patent backed securitization certainly is an innovative way to support industry research and development in both biomedical and other industry.

In Taiwan, the Financial Asset Securitization Act and the Clause of Real Estate Securitization Act are already successful legislated. Both Acts prove that asset backed securitization can be accepted by industries in Taiwan. Therefore, suitable mechanisms and related polices with implemented regulations can now be developed through legislation. Now, the most valuable assets in business enterprises have been shifted from financial assets and real estate to intangible assets, which are intellectual property rights. How to implement intellectual property securitization for enterprises to support the development and to market the products which are generated from the securitized intellectual properties, can be one of the driving forces for encouraging and supporting innovation.

2. TYPES OF SECURITIZATION

Asset securitization is a mechanism with serial processes, i.e., the originators will pool the assets which are able to generate cash flow, the pooled assets are conveyed to bankruptcy remote control mechanism through asset partitioning and securities are issued to investors for fundraising. In order to avoid the investment risks and stimulate the acceptance from the capital market, the credit enhancement mechanism is an essential part in the securitization processes (Chen & Lia, 2002, p.4). Securitization is also considered as structured finance due to the designed mechanism including the bankruptcy remote control and assets partitioning to control the risk from the originator and assets owners (Wang, Huang, & Chiu, 2003, pp. 2-4). Assets securitization was claimed to be one of the most important financial products from 1930. Ethan Penner once said, "…Securitization can be performed on any predictable incomes, such as the tangible assets, for example, house mortgage, or intangible assets, such as the royalties from intellectual properties..." (Hsieh, 2003, p.6).

In UK, there exists a legal framework for secured creditors with integrated control systems for insolvency. In particular, London is one of the legendary securities markets with creditable rating agencies, allowing credit analysts to review the complete amortization of debts with minimal financing risks for the financing of assets over long periods with high leverage. Securitization emerged in UK in mid 1990, starting from the whole business securitization and the average cash flow transaction has leapfrogged from 200 million pounds to over a billion during these years, as shown in the following table (Ramgrhia, Muminoglu, & Pankratov, 2004, p.331).

Table 1
UK Securitization Experiences

Year	No of cases	Total issuance value	Average issuance in million pounds	Business nature
1997	2	421	211	Nursing homes, motorway operators
1998	4	1,028	257	Pubs, hotels, motorway operators
1999	8	2,222	278	Nursing homes, pubs, theme parks, airports, ferry operators
2000	6	2,184	364	Pubs, theatres, healthcare
2001	9	4,698	522	Food manufacturing, water utilities, healthcare, office telephone systems, ferry operators
2002	7	7,004	1,001	Pubs, television rentals, ferry operators, heath care, water utilities, forestry lands
2003	5	3,050	610	Funeral services, healthcare, care homes, water utilities, London Underground

Whole business securitization is, however, an ideal financing technique for stable businesses with predictable cash flow and a well-invested property portfolio. From 1995 to 2002, there were several European Credit Card Asset Backed Securitizations issued, the ranking by volume is shown in the following table.

Table 2
The Issues of 1995 to 2002 European Credit Card ABSs, Ranked by Volume (Niemeier, 2004, p.181)

Rank	Issuer	Originator	Number of issues	Original size in million pounds
1	CARDS(MBNA MT 1)	MBNA EBL	12	5,191
2	CARDS(MBNA MT 2)	MBNA EBL	4	2,765
3	ARRAN	The Royal Bank of Scotland	3	2,330
4	Grace Church	Barclaycard	2	2,026
5	Sherwood Castle Funding	Capital one Bank(Europe)	2	1,321
6	Pillar Funding	Egg Banking	1	793
7	Affinity	HFC Bank	1	663
8	Dinners Card Finance	Dinners Club Europe (and others)	1	339
9	Findomestic	Findomestic Banca	1	311
10	Opus	HFC Bank	1	223
		Total	28	15,598

There are many other industries that have applied securitization as a new fundraising instrument such as Comic book characters, Films, TV shows, Video games, Books, etc.. However, the reasons underlying the credit rating is based on many factors with the method to evaluate the asset value most crucial. According to *David Edwards*, the trend of the intellectual property securitization performance demonstrated in various industries, hereafter, values were shown in the following table.

Table 3
Intellectual Property Securitization Performance Demonstrated in Various Industries (Edwards, p.2)[4]

Industry	Issuance $M	% of total issuance	Number of transactions	% Number of transactions
Film	865	42	2	10
Music	446	22	14	70
Sport	315	15	1	5
Fast Food	290	14	1	5
Pharma	100	5	1	5
Apparel	24	1	1	5

From fundraising point of view, securitization is a direct financing form based on the security issuing to raise funding directly from the public, rather than the traditional indirect financing for industries to borrow money from the banks or funding institutes; this is a process to remove intermediation (such as the bank) for fundraising (Huang, 2007, pp. 304-05). The capital owners can also give the funding to the ones who need the funds with securitized assets for the warrants, while the securitized assets are able to generate cash flow. Of course, mechanisms for risk management control and assets partitioning are the basic requirements before the securitization processes to transform the assets with low trading origin into securities with high trading character. Originators normally convey the assets with future or current profit potentials to a special purpose vehicle based on the good faith of true-sale, the assets will be further supported with credit evaluation and credit enhancement mechanisms to repackage and pool the assets into the negotiable securities for public offerings to the general public.

From the trading point of view, assets securitization is a kind of fundraising through a structured mechanism, mainly involving in various stages of assets partitioning and security issuing to be operated by a series of parties having specific duties to complete the warranted fundraising mission. In particular, the assets involved in the securitization must be able to generate cash flow at the current stage or with future potentials, and the investors will be protected by bankruptcy remote vehicles from the very beginning through the true sale to convey the assets from the originator to the special purpose vehicle, and the rights are non-recourse and similar to limited liability which will be governed by Company Act (Wang, 2004, pp. 18-25). However, the relationships of parties involved in securitization are slightly different, if the assets are not enough to cover the debts, according to the Civil Act and Bankruptcy Act, the creditors have the rights to conduct the compulsory enforcement on those partners' personal assets.[5] If a company faces bankruptcy, the creditors would have the right to demand payment from the assets;[6] and if personal bankruptcy occurs for an individual partner, traditionally, the recourse right is only effective for the assets and company shares that belong to this specific partner.[7]

3. LEGISLATION OF PATENT SECURITIZATION AND THE APPLICATION OF FINANCE ASSETS SECURITIZATION

Whether patent securitization shall be governed by the current laws and securities regulations such as in the United States and Japan, or patent securitization shall be legislated as a separated regulation or legal act, is still unclear.

[4] Retrieved from http://www.securitization.net/pdf/gerling_new_0302.pdf
[5] Civil Law, Article 681. Retrieved on 3 Oct., 2012 from http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=B0000002
[6] Civil Law, Articles 685, 687. Retrieved on 3 Oct., 2012 from http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=B0000002
[7] Civil Law, Article 154. Retrieved on 3 Oct., 2012 from http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=B0000002

3.1 Adoption of Current Finance Assets Securitization

In Taiwan, the "Finance Asset Securitization Act" and "Clause of the Real Estate securitization Act" are already legislated. Biomedical patents are assets in the intellectual property category, though intangible. Therefore, the rules and regulations that can be adopted from the Finance Asset Securitization are summarized as the following.

In the Finance Asset Securitization Act, chapter 1 already defines how securitization shall be dealt and the parties involved with the responsible authority in the government. Chapter 2 relates to the special purpose trust, including the details of the securitization plan and special purpose trust in Articles 9-14, how to issue beneficial Securities and transfer the securities in Articles 15-22, beneficiaries meetings in Articles 23-27, trustee supervisor in Articles 28-33, obligations for trust in Articles 34-35, management of special purpose trust and tax in Articles 36-42, alternation and termination of special purpose trust in Articles 43-53. Chapter 3 is related to special purpose company, the general principal in Articles 54-55, how to set up a special purpose company in Articles 56-58, rights and duties for shareholders in Articles 59-61, organization of special purpose company in Articles 62-72, securitization plan in Articles 73-74, how the securities shall be issued and traded in Articles 75-82, conveyance and management of the assets in Articles 83-84, business scope of the special purpose company in Articles 85-90, the accounting of the special purpose company in Articles 91-94, alternation and liquidation of the special purpose company in Articles 95-101. Chapter four concerns the credit rating and enhancement in Articles 102-104. Chapter five is about the monitoring in Articles 105-107. Chapter six concerns the punishment for violating the law in Articles 108-117. Chapter seven governs the attachment in Articles 108-117.

The main parts of the Finance Securitization Act are the chapter 2 special purpose trust and chapter 3 special purpose company. The special purpose trust is a special arrangement for the management and commercialization of the securitized assets (Wang, 2001, p.155), and an organization to manage the assets or assignments through a structured mechanism (Wang, 2003, p.44). The beneficiaries are entitled to the profit from this structured mechanism. The special purpose trustee is the mechanism acting for the risk remote control purpose, aiming to partition the assets, not for active management of the assets, therefore, it could possibly be a passive trust, the business scope and the operation of the funding for which will be strictly limited (Hsieh, 2004, p.24).

Under the Finance Asset Securitization Act, a special purpose company is a limited liability company, it is only acting as a mediator for the specific securitization, therefore, the design is different from the traditional companies set up under the Corporate Act, but within a simple and flexible scale (Wang, 2002, p.139). In addition, this special purpose company is also required to be free from the risk of bankruptcy and only the business related to this specific securitization can be allowed. Furthermore, the management board shall be independent to avoid the influence from the originator and the risk of money washing purposes. The important task shall be to fulfill the true-sale between the originator and the special purpose company.

Biomedical industry is one of the major industries for the future economic development in Taiwan. There are huge funding demands for biomedical industry to convert the technology from patent into a commercialized product. Since the demands are existed and the securitization application on Finance Asset securitization and Clauses of the Real Estate Securitization were legislated, it presents the trend for the wider application of securitization, and encourages us to promote the patent securitization.

3.2 Private Placements and Trading Issues Once Patent Securitization Could Be Legislated

In the United States, private placements, compared to the public offering, involve selling securities or bonds to a relatively small number of accredited investors to avoid the registration process at the American Securities Exchange Commission. However, there are some unique features, such as (1) there is no liquidity for private placements, (2) there is no public soliciting to investors, selling on public market or internet is not allowed, (3) the investor for private placements can be an angel investor, venture capitalist, individual or institutional investor under certain condition-accredited investor standards if the is private placements is carried out in America.

Regarding the organization for private placements, there are few recommended forms, such as a corporate, or a fund under contract or a trust. If it is corporate which will to be run in a relatively formal manner, such as an investing company, there is the drawback of double taxation. The registration for the company can be chosen in the Cayman islands or places with more tax benefits; or the company can be registered in the form of a technology company which may qualified for certain beneficial policies, furthermore, strategic alliance with a non-public offerings company is also an alternative.

In Taiwan, based on the Securities and Exchange act, Article 43-6, it is allowed not to seek approval from the authorities in advance. However, the relevant documentation must be presented in a report to the competent authority for recordation within 15 days of the date the share payments have been made in full, where the competent authority is the Financial Supervisory Commission, Executive Yuan according to Article 3 in the Financial Asset Securitization Act. However, there are strict limitations in Article 43-8 for trading the privately placed securities, such as in Article 43-8, "paragraph 3, where three full years have elapsed since the delivery date and paragraph 2, where the privately placed securities are transferred to persons conforming to Article 43-6,

paragraphs 1 and 2, at least one full year after the delivery date of the privately placed securities and within three years of said delivery date, subject to the restrictions prescribed by the competent authority concerning holding period and trading volume;"[9] and therefore the circulation is discouraged.

However, for biomedical patents, the private placement certainly will create benefits if legislation is included into a biomedical patent securitization act in the future, as it takes years for biomedical company to launch products on the market, in addition, it is difficult for a biomedical company to achieve satisfactory cash flow during the early years, the private placements can provide a legal funding source with less time consuming effort. Private placements are also a supportive financial tool for strategic alliance companies, however, the limitations on private placements trading may cause low circulation for other industry, but will turn out to be good on biomedical patent securitization as it will force securities purchasers to retaining the securities longer, and generate the shareholders' stability for a certain period of time, which is good for the development as biomedical patents take a longer period time to accomplish the milestones or the tasks proposed in the securitization. However, for tax off-set purposes, it will not work on private placements.

3.3 Assets Separation Design After Patent Securitization Legislated

During the securitization process, the credit rating focus are the assets instead of the patent owner (originator), therefore, if biomedical patents are of high quality, the credit rating can be higher and beneficial for fundraising to support future developments (Niemeier, 2004, p.10). Assets separation implies the concept of bankruptcy remote control to protect the investors against the compulsory enforcement to the securitized assets (Wang, Huang, & Chiu, 2003, pp. 3-12). The assets separation is aiming to transfer the assets from the originator to the special purpose vehicle, through the bankruptcy remote control mechanism to minimize the impact from the originators and to issue the securities. The future royalties from biomedical patents or/and the future sales from

[9] Retrieved on 3 May 2012 from http://www.selaw.com.tw/scripts/NewsDetail.asp?no=G0100001
Section III Private Placement and Trading of Securities in Securities Exchange Act:
Article 43- 6: A public company may carry out private placement of securities with the following persons upon adoption of a resolution by at least two-thirds of the votes of the shareholders present at a meeting of shareholders who represent a majority of the total number of issued shares; the restrictions of Article 28-1 and Article 139, paragraph 2 hereof and Article 267, paragraphs 1 to 3 shall not apply in such case:
1) Banks, bills finance enterprises, trust enterprises, insurance enterprises, securities enterprises, or other juristic persons or institutions approved by the Competent Authority.
2) Natural persons, juristic persons, or funds meeting the conditions prescribed by the Competent Authority.
3) Directors, supervisors, and managerial officers of the company or its affiliated enterprises.
The total number of placees under subparagraphs 2 and 3 of the preceding paragraph shall not exceed 35 persons. A private placement of ordinary corporate bonds shall have a total issue amount not exceeding 400 percent of its total assets less total liabilities, unless the Competent Authority has obtained the approval of the central authority with jurisdiction over the business of the company; such a private placement is not subject to the restrictions under Article 247 of the Company Act, and may be carried out in installments within one year of the date of the resolution of the board of directors. Upon the reasonable request by a person(s) under paragraph 1, subparagraph 2 prior to consummation of the private placement, the company shall bear the obligation to provide information on company finances, business, or other information relevant to the current private placement of securities. Within 15 days of the date the share payments or payments of the price of the corporate bonds or other securities have been made in full, the company shall submit the relevant documentation in a report to the Competent Authority for recordation.
For private placements of securities conducted pursuant to paragraph 1, the following particulars shall be enumerated and explained in the notice to convene the shareholders meeting, and shall not be raised as extemporary motions:
1) The basis and rationale for the setting of the price.
2) The means of selecting the specified persons. Where the placees have already been arranged, the relationship between the placees and the company shall also be described.
3) The reasons necessitating the private placement. For private placements of securities conducted pursuant to paragraph 1, where the relevant particulars of the private placement by installments have been enumerated and explained in the proposal to the shareholders meeting as provided in the subparagraphs of the preceding paragraph, the private placement may be carried out by installments within one year of the date of the resolution of the shareholders meeting.
Article 43- 7: Private placement and resale of securities may not be the subject of general advertisements or public inducements. Any violation of the preceding paragraph shall be considered an act of public offerings to the general public.
Article 43- 8: Places and purchasers of privately placed securities may not resell the securities except under the following circumstances:
1) where the privately placed securities are held by persons specified in Article 43-6, paragraph 1, subparagraph 1 and no securities of the same type as said privately placed securities are traded on the centralized securities exchange market or over-the-counter markets, and the securities are transferred to persons of the same qualifications;
2) where the privately placed securities are transferred to persons conforming to Article 43-6, paragraphs 1 and 2, at least one full year after the delivery date of the privately placed securities and within three years of said delivery date, subject to the restrictions prescribed by the Competent Authority concerning holding period and trading volume;
3) where three full years have elapsed since the delivery date;
4) where a transfer occurs by operation of act or regulation;
5) where it is a direct private transfer of securities not in excess of one trading unit, and the interval between any two such transfers is not less than three months.
6) where otherwise approved by the Competent Authority. The restrictions on transfers of privately placed securities set forth in the preceding paragraph shall be conspicuously annotated on a company's share certificates, and shall be stated on the relevant written documentation delivered to the placee or purchaser.

derivative products from the biomedical patents can be the assets for the securitization, and these biomedical patents can be used as the pledge for credit enhancement.

In America, the case law system allows the market to run freely based on the contracts entered into by parties, as securitization can be dealt with this infrastructure and monitored by professionals, and the courts assign place to resolve dispute. However, Taiwan legal practice is based on common law system, legislated law and regulations bind the conducts, it is better to legislate specific law and regulations for biomedical patent securitization to protect each of the parties involved and to encourage the industry to strive for a better economic future (Chi, 2004, p.113).

If the true-sale is unable to be achieved, the securitized assets are under the risk of compulsory enforcement if bankruptcy happens to the originators, and this will damage the investors and the parties involved in the securitization process. According to the US Bankruptcy Act-Article 548 and Fraudulent Conveyance Law, the debtors have the right to claim the assets if under fraudulent conveyance. Regarding the fraudulent conveyance by the American Bankruptcy Act, it can be whether the debtor intended to cause the difficulty for the creditors to liquidate or claim their rights, or the assets transferred were relatively undervalued.[10] There could be several scenarios for the fraudulent conveyance, such as the intent to cause damages from the investors, the profits are less than the reasonable amounts, bankruptcy occurs during the conveyance of the securitized asset or before asset conveyance, insufficient cash flow, unable to repay the debt, etc.. In order to claim the rights for the creditors,[11] the securitized assets may be claimed by compulsory enforcement.[12] Protections for the innocent third party are limited.[13]

In Taiwan, true-sale can prevent the securitized assets to be claimed by compulsory enforcement. However, if there was fraudulent intent, according to the Trust Act (paragraph 1 in Article 5, violation of public order or good social customs and paragraph 1 in Article 6, the conduct damaged the creditors rights)[14] and Civil Act Article 244, "If a gratuitous act done by the debtor is likely to be prejudicial to the rights of the creditor, the creditor may apply to the court for the revocation of such act. If a non-gratuitous act done by the debtor is likely to be prejudicial to the rights of the creditor and the debtor knew of it at the time of doing that act, the creditor may apply to the court for revocation of such act, provided that the party who profited by the act (the beneficiary) also knew of the circumstances on the receipt of the interests. The provisions of the preceding two paragraphs do not apply to the act done by the debtor, if the object of which is not on the property or is only prejudicial to the presentation of delivering a specific thing. When the creditor applies to the court for revocation according to the provision of the first or the second paragraph, he may also apply for ordering the beneficiary or the person who acquires the object afterwards (the afterwards acquiring person) to restore to the status quo ante, except the afterwards acquiring person did not know of the ground for revocation at the time of acquiring.",[15] the securitized assets could be asked to be returned back to the originator, therefore, the compulsory enforcement could be effective to the previously securitized assets.

However, the intent is not easy to be identified, therefore, it can be a risk for the investors during the securitization. In Taiwan, Trust Act, Article 6, if the bankruptcy happened within 6 months of the trust established, the damage of the creditors will be assumed.

Nevertheless, in order to prevent the suspicion of fraud under the Bankruptcy Act, there must be assurance for no difficulties of liquidation which may be caused by the bankruptcy of the originator or insufficiency of cash flow from originator. In addition, the assets conveyance must be for a reasonable price.

3.4 Bankruptcy Remote Control Design After Patent Securitization Legislated

Bankruptcy remote vehicle is a single-purpose entity within a corporate group to deal with bankruptcy which minimizes the insolvency of the bankruptcy impact. During the securitization practice, limited liability was designed through bankruptcy remote vehicles, this single purpose structure can remove the legal ownership from the group, whilst retaining the economic benefits.

However, the mortgage crisis certainly can result in a loss of liquidity in the debt markets to affect securitizations of all types. Therefore, structured response are necessary to counter-react this meltdown such as adjustment of transaction structures with transparent and support by assets, or adjustment of rating agencies' methodology in rating structured debt to the assets in the securitized portfolio, and furthermore, a restoration of capital to the financial guarantees firms which have traditionally refined the structured debt to be adequately recapitalized.

During the securitization, if both the originator and the special purpose vehicle were independent parties and there was indeed a true-sale, however, these two parties were unable to perform as independent judicial persons, it could be considered as a whole to combine their assets and debts in the United States, when the bankruptcy

[10] 11 U.S.C. 548(a)(1)(A)&(B).
[11] 11 U.S.C. 551.
[12] 11 U.S.C. 548(a).
[13] 11 U.S.C. 548(c).
[14] Retrieved on 3 May 2012 from http://www.selaw.com.tw/Scripts/Query4B.asp?FullDoc=所有條文&Lcode=I0020093
[15] Civil Act, article 244. Retrieved on 3 Oct 2012 from http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=B0000001.

occurred. According to the US Bankruptcy Act, Article 105, whether the two parties shall be considered as a whole involve few factors, such as the significances on differentiating the assets, debts, finance independency, legal compliance, credit independency, etc., between two parties. Special purpose vehicle is therefore to prevent the bankruptcy impact with better protection for the securitization process. In addition, this bankruptcy remote control can generate more confidence to investors and stimulate the circulation.

In Taiwan, we can apply the Finance Securitization Act, such as paragraph 4 in Article 9 (…The Originator and the Trustee shall not be the same affiliated enterprise, and the document and information related to the trust property shall be provided to the Trustee without false statements or concealments…), paragraphs 1 and 2 in Article 54 (A SPC shall be established by financial institutions, and shall be a company-limited-by-shares with only one shareholder. The financial institutions as referred to in the preceding paragraph and the Trustee shall not be the same affiliated enterprise…), and paragraphs 4 and 5 in Article 73 (The Originator and the SPC shall not be the same affiliated enterprise, and the relevant documents and information of the transferred Assets shall be provided to the SPC without false statements or concealments. The Originator, violating the preceding provision and causing the acquirer or transferee of the Asset-Backed Securities, shall be liable to compensate for such damage.), to limit the special purpose vehicle. The originator shall convey related documents and information to the special purpose vehicle based on good faith, and no fraudulency shall be allowed.[16]

However, if the originator served as the servicer after the assets were transferred to the special purpose vehicle, or the special purpose vehicle was controlled by the servicer after the true-sale, there would be no violation of above mentioned articles in Financial Assets Securitization Act, but the protection for the investors or the creditors of the originators might not be perfect. According to the Financial Assets securitization Act, paragraph 1 in Article 28, "In order to protect the rights and interests of the beneficiaries, the Trustee may appoint a Trust Supervisor in accordance with the SPT",[17] in addition, paragraph 6 in Article 78, "The Supervisory Institution may inspect and audit the business, financial condition, and relevant books and records of the SPC and the Servicer in terms of securitization matter at any time, and may request the directors of the SPC to propose relevant reports…,"[18] furthermore, paragraph 7 in Article 78, "When violating the duties as set forth in paragraph 2 hereof, the Supervisory Institution shall be liable to compensate the Asset-Backed Security holders for the damages sustained therefrom."[19] Overall, it seems less proactive monitoring regarding the infrastructure and rather passive protection towards the investors.

In the United States, the bankruptcy of the originators could happen due to the assets conveyance to the special purpose vehicle were included into the bankrupt assets if the secured loan was not a true-sale, the substantive consolidation of the originator and the special purpose vehicle, or fraudulent conveyance. During Intellectual property securitizations, due diligence of the intellectual assets is mostly favor in the investment and rating agency community, pooled assets with prudent legal structures and redundant safeguards are carefully planned against credit risk and event risk.

Although Intellectual Property-based securitizations are relatively new, however, due to the required lead time to get these transactions on the market together with the return of market liquidity, there are large numbers of financial institutions and hedge funds interested in funding structured debt transactions on a private basis. The true-sale of the securitized biomedical patent is the process of the asset conveyance, it is the same as other securitization to act as the bankruptcy remote control purpose. However, future possibility on patent licensing is unique on intellectual property securitization, the licensing contract will be another enhancement for the bankruptcy remote purpose. Independent legislation on biomedical patent securitization is necessary (Jackson, 1999).

4. SUGGESTIONS

Just as Patent securitization based on a single patent certainly provide higher risks than pooled assets, it would be even better if Patent securitizations were backed by diversified assets and licenses. According to Steve Sencer's presentation in the 2007 Licensing Executive Society Annual meeting, the following pharmaceutical securitization transactions were ongoing.

Table 5

Intellectual Property Evaluation Examples by Patent Value Predictor (Mejia, Sencer, Sherer, & Snell, 2007)

Company/University	Product	Amount
AstraZeneca	Humira	$700 million
Stanford University	Remicade	$650 million
Emory University	Emtriva	$525 million
Memorial Sloan-Kettering	Neupogen/ Neulasta	$263 million
NPS Pharmaceuticals	Sensipar	$175 million
Alkermes	Risperdal Consta	$170 million
Yale	Zerit	$115 million

[16] Retrieved on 4 May 2012 from http://eng.selaw.com.tw/FLAWDAT0202.asp, paragraphs 4, 5 in article 73 of Financial Assets Securitization Act.
[17] Retrieved on 4 May 2012 from http://eng.selaw.com.tw/FLAWDAT0202.asp, paragraph 1 in article 28 of Financial Assets Securitization Act.
[18] Retrieved on 4 May 2012 from http://eng.selaw.com.tw/FLAWDAT0202.asp, paragraph 6 in article 78 of Financial Assets Securitization Act.
[19] Retrieved on 4 May 2012 from http://eng.selaw.com.tw/FLAWDAT0202.asp, paragraph 7 in article 78 of Financial Assets Securitization Act.

However, there are certain fixed costs for securitization, such as setting up special purpose companies, bankruptcy remote vehicles, payments to insurance companies, service providers and experts, etc.. Therefore, the securitization transaction is recommended to achieve greater financial efficiency with considerable size. In general, this considerable size for a transaction is expected to be greater than 25 million US dollars in initial principal amount to be economically worthwhile. In the other words, there is no upper size limit. But how to get a really big number, the recommendation from experts saying involved knocking off trade margin, knocking off the variable costs from the balance sheet, evidence for paid the fixed costs, negotiating if capital providers are smaller, etc.. Anyhow, cross professions are required in securitization.

Securitization involves cross professional experts including information scientists, accountants and tax experts, specialist on IP value, management consultants, technical experts, computer modelers, market analysts, antitrust experts, commercial lawyers/solicitor, etc.. Furthermore, patents can be costly, and the demands for return on investment of R&D costs arise not only from management but also from the shareholders. Thus, there is a tendency to underestimate the value of the patent as the value of intangibles is sometimes decided by the negotiation power and marketing abilities. Accurate targeting on patent valuation and structure design for the securitization will play an important role. IP rights represent a 'currency' for trading R&D outcomes, and intellectual property based knowledge management to guide R&D direction is the current trend.

4.1 Qualifications for Intellectual Property Used as Fundraising Guarantees

There are certain criteria that assets need to have to be qualified to be used for securitization to raise funding through the capital market and which must be public information for investors' reference, as follows:

• The assets must be able to be pooled for credit guarantee and credit enhancement.

• There must be predictable cash flow generated from the assets.

• The assets must be able to be partitioned and repackaged for pooling with similarity.

• The credit rating must be above the average.

• There must be sufficient information on historical data for evaluation and infrastructure design, such as cash flow forecasting, pricing or risk management.

• The assets must be protected by law.

• There are servicer and value evaluation mechanisms for the assets.

Under the current legal situation in Taiwan, legislation on the securitization of intellectual property is required. Fortunately, a model exists to be followed, to wit the Financial Asset Securitization Act. However, that is not all in that there is legislation from other countries which can be interesting. For example, in Korea, there is the Korea Technology Credit Guarantee Fund, in which government involvement in the evaluation of, and securitization guarantees involved in, the intellectual property is assured to support the technology. There are some common factors that are taken into account for determining the value of the targeted intellectual property including:

• What is the current stage of the life cycle for the targeted intellectual property?

• What are the applications for the targeted intellectual property and the possibility to be commercialized?

• What are the costs, profits and risks related to the targeted intellectual property?

• Are there current or future threats to face litigation or compulsory enforcement?

• What are the entry barriers and the competitors analysis;

• What is the possible market share for the targeted intellectual property and is the size of the total market?

• What is the scope and the reliability of the targeted intellectual property?

• What is the core competency of the targeted intellectual property? Is the targeted intellectual property main research outcomes or byproducts?

• Is there prior art or similar asset to be applied to the royalties and price of the securities?

• Is the targeted intellectual property easy to be designed around? What is the major advancement from economic, legal and technology point of views?

• What will be the impacts of inflation, the world economic situation, specific industry cycle(s) and competitors?

• What are the needs for the targeted intellectual property, any particular drawbacks?

• What is the scenario if the targeted intellectual property is expired?

• What is the manufacturing and marketing power of the licensee?

• What is the possible capital to be raised, the labor cost and supply chain?

• What are applicable taxes, such as the custom taxes and other taxes?

• How to reduce costs, minimizing the risks and reducing the burden on the parties involved in securitization?

• What is the trend of currency exchanges?

• What are the risks based on due diligence for the targeted intellectual property? Are there alternative or replacement for the targeted intellectual property?

• Are there any unexpected risks?

• What are the legal systems and government polices related to the targeted intellectual property?

Issues relating to validity are unique to intellectual property, as opposed to other types of assets. The validity

of target intellectual property can be varied from country to country, and the owner has to pay to maintain the patent rights in force. Validity challenges in litigation, and the cost of such litigation shall be preserved as contingency for risk management.

4.2 Overseas Fundraising and Guarantor Institutions

In Japan, Tetsuya Komuro securitized the future royalties of his 806 songs from his music CDs in exchange for a 1 billion Japanese yen from Fuju Bank in order to buy the digital music equipments and recording facilities (LIU, 2004). Fuji Bank requested that Tetsuya Komuro must sign up the rights to as assets management company to manage the royalties for these songs in the securitized CD.

In the United States, there is an IP Innovations Financial Services, Inc (IPI), whose core business specialized on intellectual properties evaluation and the raising of funds using this IP as security. As an off-shore company, Royal Pharm, is specialized on the securitization of biomedical patents, with several successful cases like Yale university on Zerit and many others biomedical patents. CitiBank once joined consultancy to support the securitization of Emory university on Emtrica (3TC) litigation.

There is also the Technology Escrow Contract for intellectual property to be accepted as a mortgage guarantees, wherein the targeted intellectual property is transferred to a custodian company under the terms of an escrow contract which company verifies and evaluates and manages the assets (Lewis & Moore, 2003). The true example was Norand -- a software company with many valuable patents and copyrights, which was acquired by a biotech company through the help of the custodian company in 1988 (Liu, Yen, & Shih, 2002, p.148), by offering funding and deposit verification for those intellectual properties and accounting status reports of Norand (Lewis & Moore, 2003, p.8).

In Taiwan, the government supports and provides trust funds for small and medium size enterprises to pledge their intellectual property (Chen, 2006, pp. 32-34). Considering the great expectation on biomedical patent securitization, although the securitization is also a sophisticated and costly mechanism, it is one that offers enormous benefits and protection for the parties involved. Thus, legislation on the securitization of intellectual property should be encouraged for biomedical patents.

4.3 Mechanism and Framework for Biomedical Patent Securitization

Before biomedical patents are accepted as security, due diligence is the primary task before the infrastructure of the securitization designed, clarify issues such as what is the scope of the assets? To whom is the royalties of the assets paid? Whether the assets were transferred to the special purpose company? Where the terms of the patent assets are longer than the securitization period? In addition, it provides a means to access essential documentation such as the proofs of ownership, licensing contracts, royalty history, etc..

Key elements involved in securitization are (a) the identification and investigation of the underlying assets; (b) the establishment of special purpose vehicle; (c) the underlying asset being transferred; (d) the credit enhance mechanism; (e) securities issued and sold; and (f) asset management and services.

Processes involved with biomedical patent securitization can be briefly described as follows:

• Identification of the securitization target and analysis of the biomedical patent for determination of its value and to plan and control the cost and expenses demanded for future development;

• Form with a team of professional advisors and parties involved in biomedical securitization to structure and arrange the deal with all the legal documents needed therefore;

• Analysis of the historical data for the targeted biomedical patent, the target market and economic situation to calculate proper forecasts;

• Refining the identified assets for securitization and processing the auditing;

• Setting-up the special purpose vehicle and performing true-sale between the originator and the special purpose vehicle;

• Credit enhancement and credit evaluation;

• Issuing the securities and promoting their circulation;

• Managing the assets with payment for the principal and interest.

4.4 Overseas Experiences on Securitization, Evaluation and Fundraising for Biomedical Patents

The evaluation of intellectual property was often conducted under the circumstances such as litigation, licensing, merger, tax related issues, deprived or obtaining the rights, partnership contribution analysis, offering guarantees, corporate reorganization or bankruptcy, strategic analysis on intellectual property and investment analysis. Gordon V. Smith and Russell L. Parr further added the additional scenario (Smith & Parr, 2000, pp. 4-6) of like accounting purposes.

Anthony Breitzman and Patrick Thomas suggested that the patent evaluation shall take the following factors into consideration patent index, patent number, patent growth rate, patent type (invention or design), patent impact factor, patent life cycle, etc.; patent Citation Index, Technology Cycle Time and Science Linkage, and Technology Strength. According to the China scholar, Lee

[20] Retrieved on 4 May 2012 from http://www.fujibank.co.jp/

Shun-Der (Li, 1999, p.32), the factors impacting on patent evaluation include the following:

Legal factors: patent type, innovation, scope of protection, legal status, implementation status, government policy, etc..

Technology factors: maturity of the technology, degree of difficulty of implementation, professional scope, proficiency and ability of the people to implement the patent, etc..

Economic factors: cost, profit, market, risk, etc..

Capital influence: macroeconomic impact.

According to theoretical principals, evaluation methods are based on the cost, market price and income analysis (Poltorak & Lerner, 2002, pp. 75-89). The evaluation of the intellectual property can involve: (a) the technology itself; (b) the royalty; (c) the detail price break down; and (d) the licensing price (Chiu, 1999, p.18).

During the patent securitization, the cash flow from the royalty of the patent and the intellectual property right is the pledge and transferred to the special purpose vehicle. Therefore, we need to review how the royalty can be calculated and the various methodologies that have been applied, such as asset contribution method, Discounted Cash Flow Method (DCF), Global Method, General Business Profile Approach, profit comparison and combined profit comparison method. Furthermore, Robert F. Reilly provided new concepts into the evaluation regarding the excess income capital method, future income discounted method, intellectual property scrap value method (selling price minimized the fixed asset with net operational cost), industry scrap value (industry value minimized the fixed asset with net operational cost) and the rehabilitation method (Reilly, 2001, pp. 3-4). There is no absolutely perfect evaluation for intellectual property, and there are always new approached and divine theories emerging.

Referencing litigation for judgments or rulings from the courts is also an approach to determine the acceptable value. According to the US Patent Act, Article 284, the court will issue the damages to cover the losses of the plaintiff but if the patentee is unable to prove the loss on profits, the damages are calculated based on a reasonable royalty to be calculated. The patent owner and licensee can negotiate by themselves the close approximation method will be applied. Furthermore, in the US Patent Act, Article 182, the fees to compensate the use of the patent is stated, therefore, the foundation for the evaluation of the patent is provided retrospectively (Tsun, 2002, p.355). The evaluation of the patents is a matter of fact, shall not a matter of law, and the employment of an expert to deal with the evaluation of the patent in the court being appropriate (Liu, 2000, p.26). Nevertheless, the proficiency of the expert, patent evaluation methods, reasonable royalty and the legitimacy of the evaluation conducts have all become issues in the courts (Schlicher, 1996, p.99).

4.5 Protection Mechanism for Investors

In most cases, Intellectual property backed asset securitizations is required to carry a higher credit rating than the debt obligations of the originator. This can be generally achieved by use of the bankruptcy-remote vehicle such as a trust that acts as a repository for the assets and issuer, or obligor, of the securities funding those assets. This improvement (triple A in most cases) affords the originator savings on funding costs and substantially broadens the investor base available to the originator.

Biomedical patents belong to intellectual property, and intellectual property is a type of assets, therefore, an asset backed securitization can be applied on biomedical patents. Securitization provides the non-recourse funding channel with lower cost, tax off-set and in amount, and the issued securities are irrevocable, it is obviously making them a favorable financial tool for the patent owner. However, investors can only rely on credit rating information focused on the securitized assets. In fact, the securitization mechanism is a sophisticated process, including the risk control vehicles, such as credit enhancement, special purpose vehicle and bankruptcy remote control, the investor protection measures to avoid unpaid royalties, or the invalidation of the patent or technology phased out of the market during the time it is serving as a security (Fong, 2004, p.142).

The targeted patents should also be carefully reviewed to avoid being pooled with other patents of lower quality or similarity to effect the accuracy of cash flow forecasts. Internal auditing, such as true-sale (asset conveyed from the originator to the special purpose vehicle), asset management, credit enhancement and administration monitoring for the parties involved in securitization, etc., should be handled in good faith to ensure the success of the securitization and protection for investors. Legislation on the criteria of the true-sale and duties of the parties involved in the securitization would offer investors additional protection.

The liability of the credit rating agency should also be included in the whole securitization process, as the credit rating agency is responsible for correctly evaluating the securitized assets, providing credit enhancement measures and offering the credit rating of this securitization to investors. Legislation of biomedical patent securitization is highly recommended to involve government authority in monitoring and to provide better protection for investor.

It is a world trend to require, public offerings securities to be registered at Security and Exchange Commission (SEC), for example, if securitization occurs in the United States, it shall follow the American Securities and Exchange Act. In Taiwan, investors' protection can also be applied to the Securities and Exchange Act-chapter 7 (Articles 171-180-1)[21] and Civil Act (Articles 184-188).[22] If there is any inequitable conduct involved, such as fraudulence or negligence, damages are assessed according to the law.

CONCLUSION

Providers who commit to a patent securitization project should follow ethics with good faith to provide the fair suggestions to structure the securitization design and professional evaluation for intellectual property under legal covenants with a safeguard to allow the patents created to be beneficial to all participants in the securitization. The buyer who takes advantage of the securitization have at their disposal various legal doctrines to protect them without the fear of facing liability if patent infringement happened during the securitization period, the necessary protection mechanisms and legal framework preparations with contingency should be ready. For example, "due diligence" to review whether the patent is as valuable as claimed. If the patent is already under attack, the fees to paid for the litigation shall be reserved as long as all the "paperwork (ex: patent is valid and granted with solid claims)" is correct.

Whether a securitization of intellectual property royalty revenues can be classified as a debt to fulfill financial accounting purposes or influence the rating determination on the sponsoring institution's securities for obligations is dependent on the financial reporting standards. If patent securitization is legislated in a country with specific rules, the sponsor should be able to achieve the desired transaction for accounting bookkeeping under that jurisdiction.

The additional benefit for intellectual property securitization based on royalty revenues generally is that it does not require the intellectual property rights to be reassigned, although pledged or assigned intellectual property as an optional feature might achieve more favorable rating results with better funding terms. However, the baseline for an IP royalty securitization will only require for the sponsoring company's royalty revenue rights to be unconditionally reassigned to the special purpose vehicles, and the special purpose vehicle can issue debt securities collateralized based on the royalty revenue rights.

Doubts inevitably exist worldwide as concerns on the valuation and credit ratings, in spite of the existence and use of academically supported valuation methods such as the market approach, the cost approach and the income approach. Patent challenges, the trustworthiness of the evaluation of patents and rating institutes will certainly make the government hesitated to launch the patent securitization in Taiwan. Other risks include insufficient cash flow to service debt due to competition from new and existed products, litigation challenges to the patent, slower or declining of sales during life cycle, product obsolescence, regulatory intervention, such as withdrawal of FDA approval, changes to healthcare reimbursement policies, liability for possible customer complaints, etc.. Furthermore, government policy may also affect the success of the securitization, such as compulsory licensing based on the TRIPs and Doha declaration. China announced the amendment for compulsory licensing which was effective from 1 May 2012 to allow the

[21] Retreived on 5 May 2012 from http://eng.selaw.com.tw/FLAWDAT0201.asp

[22] Retreived on 5 May 2012 from http://law.moj.gov.tw/LawClass/LawContent.aspx?PCODE=B0000001

Article 184 : A person who, intentionally or negligently, has wrongfully damaged the rights of another is bound to compensate him for any injury arising therefrom. The same rule shall be applied when the injury is done intentionally in a manner against the rules of morals.

A person, who violates a statutory provision enacted for the protection of others and therefore prejudice to others, is bound to compensate for the injury, except no negligence in his act can be proved.

Article 185: If several persons have wrongfully damaged the rights of another jointly, they are jointly liable for the injury arising therefrom. The same rule shall be applied even if which one has actually caused the injury cannot be sure. Instigators and accomplices are deemed to be joint tortfeasors.

Article 186: An official, who has intentionally committed a breach of duty which he ought to exercise in favor of a third party and therefore prejudice to such third party, is liable for any injury arising therefrom. If the breach is the result of this official's negligence, he may be held liable to compensate only in so far as the injured person is unable to obtain compensation by other means.

In the case mentioned in the preceding paragraph, if the injured person who may obviate the injury by making use of a legal remedy has intentionally or negligently omitted to make use of it, the official shall not be liable to compensate for the injury.

Article 187: A person of no capacity or limited in capacity to make juridical acts, who has wrongfully damaged the rights of another, shall be jointly liable with his guardian for any injury arising therefrom if he is capable of discernment at the time of committing such an act. If he is incapable of discernment at the time of committing the act, his guardian alone shall be liable for such injury.

In the case of the preceding paragraph, the guardian is not liable if there is no negligence in his duty of supervision, or if the injury would have been occasioned notwithstanding the exercise of reasonable supervision.

If compensation cannot be obtained according to the provisions of the preceding two paragraphs, the court may, on the application of the injured person, take the financial conditions among the tortfeasors, the guardian and the injured person into consideration, and order the tortfeasors or his guardian to compensate for a part or the whole of the injury.

The provision of the preceding paragraph shall apply mutatis mutandis to cases where the injury has been caused to a third party by a person other than those specified in the first paragraph in a condition of unconsciousness or of mental disorder.

Article 188: The employer shall be jointly liable to make compensation for any injury which the employee has wrongfully caused to the rights of another in the performance of his duties. However, the employer is not liable for the injury if he has exercised reasonable care in the selection of the employee, and in the supervision of the performance of his duties, or if the injury would have been occasioned notwithstanding the exercise of such reasonable care. If compensation cannot be obtained according to the provision of the preceding paragraph, the court may, on the application of the injured person, take the financial conditions of the employer and the injured person into consideration, and order the employer to compensate for a part or the whole of the injury.

The employer who has made compensation as specified in the preceding paragraph may claim for reimbursement against the employee committed the wrongful act.

domestic use under national emergency, public interest and anti-monopoly/competition, and the exporting of pharmaceuticals abroad. Taiwan also announced the amended patent act in Dec 2011 to include the compulsory licensing in chapter 5 with similar fashion, but Taiwan only allows the exporting of pharmaceuticals to the least developed countries or countries needing help with detailed requirements, although 3 compulsory licensing cases "a bactericide from Anyun in 1983, CDR from Philip in 2004 and Avianflu from Roche in 2005" (Wang, 2012, pp. 96-99) were approved. India just approved the first compulsory licensing on a cancer drug belonged to Bayer. Thailand and Egypt were found to abuse the compulsory rights, which indeed caused instability on patent rights but also ended up with foreign investment dropped significantly.

These risks are common for the other type of securitization, such as on estate or financial asset securitizations, and investors or buyers carry those risks on their investments all the times.

Patents do different from other type of assets as each individual country has its own laws concerning their own patent regulation. However, securitization is also a kind of period transaction with a limited time frame. Studies have shown and recommended that patents with longer text, method and system claims, more independent claims, lots of dependent claims, short independent claims, lots of "related" patents, lots of prior art cited and many forward citations, etc., are highly possible to be kept longer as a simple guide for general public who is interested to purchase patent securitization but with vague knowledge on this new financial instrument.

In 2006, the Ocean Tomo 300™ Patent Index, the first equity index base for the value of corporate IP based on 300 diversified companies, was launched. It is published by Amex. There are more and more reliable methodologies and sophisticated software to assist on patent evaluation with proven track records. Under the current circumstances in Taiwan, where the government or the environment is limited in its resources, patent backed securitization offers an opportunity for the patent holders to obtain funding with limited credit exposure, a lower cost of capital, an improved capital structured and ratings, and a possible greater leverage of intellectual property for acquisition tool.

It does not matter whether the patent holder is an individual inventor, a large technology company or a start-up company, all can have a better chance to develop and emerge to the market place through the application of patent securitization, although biomedical patent represents a tiny segment of the overall market place. The voices from the industries and Bankers from research by Wang and Lin (2010, pp. 215-238), both parties are aware of various securitization types for intellectual property rights to be applied, in addition, the patent can be securitized must be with high stability although patents are with limited life cycle. The evaluation models for intellectual property right's value can be learned from Europe, the United States and Japan and it shall not be a problem to hinder the securitization. The promotion to encourage the intellectual property rights can also be learn from abroad, if it is truly the need for the market, it will become popular sooner or later. However, the survey responses from the industries showed low interest on applying the existed civil law and Banking Law on intellectual property rights. Furthermore, the respondents from the industries also showed low interest on setting up IP evaluation mechanism and neither by government nor by banking industry. After all, the legislation on intellectual property rights are crucial as legal protection for the parties involved in the securitization mechanism and the protection for investors are equally important. Information disclosure and data publicity for intellectual properties require auditing mechanism, which means every single steps in securitization, such as patent evaluation, structured finance arrangements and contract/ agreements enforcement shall be closely monitored.

Biomedical patent backed securitization will work well in Taiwan after decades of efforts on research and development and quite a few government policy supports. It is the right time to promote biomedical patent securitization and related statutory and legal mechanism in Taiwan. Biomedical patent securitization if passed through legislation, the legitimacy involvement from government involvement confers by playing a monitoring role to watch the whole securitization process and protect the general public.

There are always the pros and cons for any proposals or initiatives, however, the moral guidance and encouragement for ethical conducts can be educated and, at the same time, the enforcement of the law and regulations-provide the safeguards. Nevertheless, I humbly provided my studies to support the legislation on biomedical patent securitization, as a research scientist and a teacher on intellectual property rights, I agitated for the economic future of Taiwan, therefore, based on my previous working experiences in biotechnology and pharmaceutical industries, biomedical patent securitization could be an effective support to bring out the next glory for Taiwan economics after the semiconductor and electronics.

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