Politecnico Di Torino

Master's Degree in Engineering and Management



Master's Degree Thesis

Bridging innovation and finance: IP securitization as a pathway from creativity to capital through the conversion of intellectual property into a financial asset

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Academic Year 2024/2025

Abstract

This thesis explores the securitization of intellectual property (IP) as an alternative and innovative financing method for businesses, particularly small and mediumsized enterprises (SMEs) that typically face challenges in accessing favorable bank loans. By leveraging their IP assets, these companies can raise capital under more advantageous conditions. The study is structured into four main chapters.

The first chapter provides a detailed overview of the securitization phenomenon, analyzing the key players involved and the benefits derived from this type of transaction. It lays the groundwork for understanding the mechanics and advantages of IP securitization as a financing tool.

The second chapter, the core of the thesis, delves into a series of case studies, examining real-world examples of IP securitization. This includes in-depth analyses of specific transactions involving patents, copyrights and trademarks, followed by a comparative analysis to highlight similarities and differences across the cases. The chapter also explores the concepts of whole-business securitization (WBS) and megafunds, providing a broader context for understanding the evolving landscape of IP securitization.

The third chapter focuses on the economic valuation of the underlying IP assets, a crucial aspect of securitization transactions. It discusses various valuation methodologies, including income-based, cost-based and market-based approaches, providing insights into how the value of IP assets is determined in the context of securitization.

The fourth chapter offers a comparative analysis of the regulatory frameworks governing IP securitization in key jurisdictions, namely the USA, Europe, China and Italy. It identifies the main laws and regulations in force in each region and examines their specific provisions related to IP securitization.

Finally, the thesis concludes by discussing the main challenges associated with this innovative financing method, offering a comprehensive assessment of its potential and limitations. It highlights the importance of adapting IP securitization to the specific needs and circumstances of businesses, while also acknowledging the complexities and risks involved.

This thesis aims to contribute to a deeper understanding of IP securitization as a valuable financing tool for businesses, particularly SMEs. By examining real-world examples, valuation methodologies and regulatory frameworks, it provides insights into the opportunities and challenges associated with this innovative approach to raising capital.

Contents

Contents

1	Ma	Main IPR's types, securitization and benefits related to its appli- cation 1							
	cati								
	1.1	Poten	tial of intangible asset finance $\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots 2$						
	1.2	tization and royalties							
		1.2.1	Originator						
		1.2.2	Special Purpose Vehicle (SPV)						
		1.2.3	Servicer						
		1.2.4	Investors						
		1.2.5	Credit Rating Agency 9						
		1.2.6	Trustee						
		1.2.7	Credit Enhancers						
		1.2.8	Underwriter						
	1.3	Securi	tization's benefits						
		1.3.1	Alternative financing: non-bank credit						
		1.3.2	Cutting financing costs						
		1.3.3	Off-book financing						
		1.3.4	Portfolio diversification						
		1.3.5	Fostering innovation and Enhancing Enterprise Value 18						
າ	Cas	o stud	ios 20						
4	0 1	Dase studies							
	2.1	211	Revelthy Pharma 24						
	იე	2.1.1	$\begin{array}{c} Introval final $						
	2.2	00pyr	DroomWorks 34						
		2.2.1	Monual 26						
	<u> </u>	Z.Z.Z Trado	Marver						
	2.0	11aue.	$\frac{1}{2} \frac{1}{2} \frac{1}$						
		2.0.1	Guess: Inc						
		2.3.2 3.2.2	$D_{\text{chrise}} = \frac{1}{2} D_{\text{chrise}} = \frac{1}{2} D_{\text$						
	<u>م</u> ا	2.3.3 Com	Dominio s rizza						
	2.4	Oomp	Morefund						
		2.4.1	$\mathbf{Wegarund} \dots \dots \dots \dots \dots \dots \dots \dots \dots $						
		2.4.2	Whole-business securitization						

iv

3	Eco	nomic valuation of intellectual property's methods	68
	3.1	Income-based method	70
		3.1.1 With-and-without method	71
		3.1.2 Relief-from-royalty method	72
		3.1.3 Excess earnings method	73
		3.1.4 Greenfield method	74
	3.2	Market-based method	77
	3.3	Cost-based method \ldots	79
4	Cur	rent regulations and standards in various parts of the world	83
	4.1	USA framework	84
	4.2	Europe framework	89
	4.3	Italy framework	94
	4.4	China framework	98
	4.5	Regulations Comparative Analysis	102
5	Fur	ther Challenges & Conclusion	106
	5.1	Complexity in the EV of intangible assets	107
	5.2	Limited intervention of regulatory authorities	108
	5.3	Low familiarity by investors and financiers	109
	5.4	Significant transaction costs	110
	5.5	Difficulty in liquidating intangible assets	111
	5.6	Conclusions	112
Bi	bliog	graphy	117

Chapter 1

Main IPR's types, securitization and benefits related to its application

Intellectual property rights (IPR) have been defined as ideas, inventions, and creative expressions based on which there is a public willingness to bestow the status of property. They provide certain exclusive rights to the inventors or creators of that property which last for a certain period of time. There are several IPR's types: patent, copyright, trademark, trade/commercial secrets and industrial design are the most common.

Patent	30 months on average to obtain and 20 years term from date of application. Provide the owner the right to decide who may make, use and sell the invention and sue for infringement.
Copyright	Ownership of the right to reproduce a literary work, record, film, etc. Term is life of author plus 70 years, or 95 years from date of publication or 120 years from date of creation for works made for hire.
Trademark	It identifies and cover distinguished goods and services in a mar- ketplace. Term is indefinite with continuous use. Owner decides who can use a mark in commerce and infringement involves use of identical or similar mark that has the potential to cause con- fusion among customers.
Trade secret	Information that is not generally known by the public and it's subject to reasonable efforts to prevent disclosure. Indefinite term and no registration required. Owner can decide who may use or disclose.

Owners of intellectual property frequently use more than one of them to protect the same intangible assets. In practice, they differ according to the level of protection they offer and according to the ways in which they can be used from a legal standpoint. The most widespread use of IP is defensive in nature as, granting creators and/or authors the exclusive right to exploit their creation, it is a way to compensate them for the efforts and investments made in their development. In this way, it stimulates innovation and creativity but also aids the development of a country promoting healthy competition and encouraging economic growth and industrial development.

Actually, intellectual property rights can also be used as a financial resource by companies seeking finance in an effort to shorten the financial gap that hinders their prosperity and success. They can support both debt and equity financing but, despite their potential, the field of intangible asset financing is still in its infancy due to the presence of several obstacles which are described in Chapter 5.

1.1 Potential of intangible asset finance

Intellectual property is crucial especially for smaller businesses, usually called SMEs (small- and medium- sized enterprises), because their worth primarily lies in what they create and invent. Since it's unlikely to possess assets of great economic value, a small firm faces challenges in assessing traditional forms of financing. For example, if the credit history is poor or there are not enough resources to be pledged as collateral it's difficult for a bank to lend money to the firm on favourable terms. The strategic use of intangibles, especially those protected by IPRs, can support the lending and investment processes reducing the financial handicap.

Intangibles assets can be used to secure financing in different ways, by pledging them or transferring rights to cash flows derived from these assets. They are used both for equity and debt financing: in the former, inventors conduct due diligence in order to ensure they are robust enough to sustain the business strategy while, about debt financing, lenders may evaluate intangibles in determining the borrower's ability to pay.

One of the main problem is that assessing the value of IP collateral is challenging for most debt providers due to three main reasons:

- there is no clear formula for determining the collateral worth.
- little experience with IP assets from the financial community.

• low appetite for that type of transactions due to its complexity.

As a consequence, there are limits in debt financing using intangibles because financiers need to be confident that they will be repaid on time and in full but the IP value is fairly complex to estimate.

Considering only IP-backed financing, there are three main structures used by firms: direct collateral, securitization and sale-and-leaseback. Basically, they differ in how IP is used and the actors involved.

	Direct collat- eral	Securitization	Sale-and-leaseback
Description	IP serves as se- curity for loan	IP serves as underly- ing asset to issue secu- rities in capital mar- kets	IP sold in exchange for upfront funding
Role of in- tangibles	IP assets or stream of rev- enues pledged as collateral	IP assets or royalties transferred to a SPV	IP assets or royalties sold to specialized in- vestor or a lender

Table 1.1: Main IP-backed routes

The choice depends also on the types of IPs the firm owns. IPs with clear value outside the company, even if the business fails, as a patent portfolio that can be easily implemented or a well-known brand, are more suitable to be used as a **collateral** while an intellectual property that is central to the core business, as royalty generating software licences or licenced music/film, are more likely to be used in sale-and-leaseback mechanism. Instead, if revenues can be predicted with a sufficiently degree of confidence as patents which are "standard essential", securitization is an option.

1.2 Securitization and royalties

Securitization is a tool through which companies can convert IP assets into monetizable ones in order to generate revenue streams. Those assets are used in an alternative way to the tradition based on using intellectual property defensively to protect companies' market shares through threatening or pursuing litigation. It's generally defined as 'the process of using the cash flows generated by an asset or a pool of assets to support the issuance of debt.¹

In securitization, the credit is supported by a lien on specific assets and could be considered as an offshoot of traditional secured debt: the burden of repayment is shifted away from the issuer to a designated pool of assets while with conventional secured issues, the primary source of repayment remains the issuer's earning power. Indeed, securitization structures usually include provisions that safeguard bondholders from the issuer's performance risk which can take the form of contractual rights, as allowing them to replace the issuer if it has difficulties.

Securitization and collateralization of intellectual property are often mistakenly used as synonymous. They are are similar from a transactional point of view, in sense that they use IP as security for loans relying on its nature and quality, the type of the customer and the past performances of the actors involved. However, they differ in how funds are used. In collateralization, royalty proceeds are directly used to repay the loan amount, principal plus interests in a standard debt scheme, while in securitization, the royalty income supports the creation of new securities as bonds which are sold in the capital markets.²

Even if the securitization's structure slightly varies according to the type of the underlying asset used, the typical transaction involves the sale by a corporation, namely the **Originator**, of assets to a special purpose vehicle, hereinafter **SPV**, which is usually a corporation, a trust or other entity and it's solely formed with the purpose of realizing the securitization transaction.³ In particular, the sale moves the assets from the originator's balance sheet to the SPV and the purchase is financed by issuing debt securities or *equity securities with debtlike characteristics* backed by those assets, known as **asset-backed securities (ABS)**: in that way, investors who buy those securities are paid with the cash flows generated by the underlying assets. ⁴

In an IP securitization intellectual property rights are used as underlying assets and the royalty income streams are assigned to an independent legal entity, the SPV. Income streams are financed by raising capital from investors in the capital markets through the issuance of securities which are backed by those securitized IP rights.

¹B. Berman, From Ideas to Assets - Investing Wisely in Intellectual Property, p. 444.[2]

²K. V. Nithyananda, Alchemy and ipr - monetizing intellectual property rights, p. 412.[27] ³Usually it's named "One-Off" securitization. [40]

⁴E. Iacobucci, R. Winter, Asset Securitization and Asymmetric Information, p. 164.[15]

The securitization market is characterized by a complexity that requires the participation of several actors. In the following paragraphs, a detailed overview of the main players involved in this context will be presented, analyzing their functions and interactions with each other. From the originating company that initially owns the assets, to the SPV that issues the securities, to the retail and institutional investors who purchase them in the capital markets. Moreover, the roles of other key players will be examined, such as rating agencies, trustees and underwriters.

1.2.1 Originator

The entity that starts the securitization transaction to raise capital is known as the "**originator**". Generally, it isolates a pool of intellectual property assets with anticipated cash flows and transfers the rights to them to a Special Purpose Vehicle (SPV) in exchange for a lump sum payment.

This isolation of IP assets has the potential to reduce financing costs as the cost of financing is primarly determined by the quality of the assets to be securitized and not from the overall risk profile of the originator's business.

In general, only one originator takes part to the securitization transaction. However, it's possibile to have a more complex structure known as *multi-seller securitization conduit*, in which multiple originators assign their IP rights to a single SPV. Thereafter, the SPV issues securities backed by the combined rights. This structure provides several advantages: firstly, it significantly reduces transaction costs avoiding the creation of multiple SPVs and then, by diversifying the pool of underlying IPRs, it improves the credit quality of the issued securities, thereby attracting a broader range of investors. Up until now, most multi-seller securitization conduits have focused on accomodating investment-grade originators. This selectivity mitigates the risks associated with a single originator's financial distress: limiting participation ensures that the potential bankruptcy of one originator has a minimal impact on the other participants. ⁵

In conclusion, benefits for originators involved in a securization are:

- Enhanced capital market access: gain efficient entry into capital markets.
- Overcome issuer constraint: better fundraising capabilities.
- Liquidity transformation: conversion of IP assets (illiquid) into cash.

⁵L. Schwarcz, The Alchemy of Asset Securitization, p. 140.[40]

- Funding diversification: new funding source and investors.
- Capital allocation: capital raised can be used to finance operation and/or investment in new assets.
- Revenue generation: additional earnings generated through securitization.
- **Corporate strategy**: facilitate mergers, acquisitions and divestitures more effectively.
- Risk transfer: transfer credit risk to third party, the SPV. ⁶

1.2.2 Special Purpose Vehicle (SPV)

A special purpose vehicle (SPV) is created to acquire income streams (royalties) from intellectual property rights and issue securities backed by these acquired rights. In particular, the sale must resemble a **true sale**: the price paid for transferring the rights has to be reasonable related to the worth of the assets sold under bankruptcy law. To effectively be a true sale, the originator normally transfer all rights, title and interests in the future royalty streams to the SPV: this transfer should fully separate the future payment streams from the originator entity, even if it is not fully divested. Moreover, asset-backed securities can provide benefits from a taxation point of view, according to the type of the underlying asset and the jurisdiction.

Generally, the SPV is owned by the originator or a third party, even if the use of single or multi-member limited liability companies is becoming increasingly popular.

SPVs can take various legal forms worldwide, ranging from corporations, trusts or partnerships, and the choice is related to the desire to protect investors from the risk of bankruptcy. Indeed, SPV has to be "*bankruptcy remote*" in sense that it is unlikely to declare bankruptcy or to be adversely affected by the originator's failure. To achieve that, the SPV's governing documents include several restrictions on its business operations:

- activities external to those related to the securitization transaction are prohibited, including incurring in debt financing.
- engaging in any termination, dissolution, liquidation, merger, asset sale or transfer of ownership stakes is prohibited as long as securities are outstanding.

⁶https://www.pwc.lu/en/securitisation/parties-involved-in-securitisationtransactions

- the board of directors is generally comprised of individuals nominated by investors, since it's necessary unanimous or supermajority to approve any kind of change including bankruptcy or transactions with other affiliates.
- one or more independent directors are usually required, especially if the SPV is owned only by the originator. [6]

Those restrictions are useful to prevent the originator from causing the SPV to voluntary file for bankruptcy: it's typical the case in which the originator is in a situation of financial distress and the SPV bankruptcy can be a way to consolidate assets and liabilities in only one entity. The minimization of the risk of bankruptcy has also the goal to prevent creditors, which are external to those involved in the securitization process, to have claims against the SPV that would allow them to file an involuntary bankruptcy petition.⁷

In conclusion, due to its highly specialized nature, the SPV possesses no assets other than the royalties generated by intellectual property rights it has acquired and its only obligations are the securities it has issued. Consequently, the main determinant of the overall risk profile of the investment comes from the quality of the IPR used and less from the actions of the SPV.

1.2.3 Servicer

In general, the SPV estabilishes a contractual arrangement with a **servicer**, typically the originator or a third party with a specialized industry knowledge, to undertake the responsibility of royalty collection. The contractual aggreement typically outlines a detailed procedure for replacing the servicer in the event of insolvency or other circumstances that impede the effective fullfillment of its duties. The servicer is responsible for the collection of interests and principal repayments derived from the securities issued and, as a form of reward for these services, is entitled to receive a fee. In addiction to operational tasks, it is also responsible for regulatory tasks to ensuring the compliance with the law: in case the servicer is only in charge of regulatory duties, it's called *master* servicer. ⁸

If the securitization structure is a multi-seller one, where several originators transfer their IPR royalties to a single SPV, a standard practice involves designating one of them as the primary servicer that is responsible for all securitized assets.

⁷L. Schwarcz, The Alchemy of Asset Securitization, p. 136.[40]

⁸https://www.securitisation-services.com/en/services/servicer-masterservicer.php

In the short period in which the amount designated for the SPV is managed by the originator/servicers, both SPV and security holders face the potential threat of the originator's insolvency, which could lead to a liquidation process and the liquidator would attempt to obtain the designated funds. To mitigate that risk, a trust arrangement is established whereby the originator holds the royalty funds on behalf of SPV, ensuring that these funds are protected from potential claims or liabilities that may arise from the originator's financial troubles. ⁹

1.2.4 Investors

The securitization process offers a unique source of funds for payments to the investors in an asset-backed security, the royalty streams derived from the IPRs that have been securitized. Investors can participate in ABSs both directly and indirectly, often through institutional investors such as pension funds, provident funds and insurance companies.

The securitization involves a low risk investment due to the clear separation between the securitized assets and the overall business operations of the originator. Moreover, the diversification achieved by pooling a substantial number of underlying assets, particularly in the context of multi-seller securitization conduit, further mitigates risk.

ABSs are usually sold in tranches, each with a distinct seniority level. When these securities are sold to the public, they are subjected to a rigorous rating process conducted by specialized credit rating agencies as Moody's, which are described in paragraph 1.2.5. Senior tranches generally receive investment-grade ratings, indicating a lower risk profile: however, lower-ranking tranches may be assigned lower ratings, reflecting an higher degree of credit risk. Instead, in case of a private placement, where securities are sold to sophisticated investors, formal rating may not be essential because they possess the expertise to assess the creditworthiness independently.¹⁰

⁹L.Schwarcz, The Parts Are Greater than the Whole: How Securitization of Divisible Interests Can Revolutionize Structured Finance and Open Capital Markets to middle-Market Companies, p. 148. [39]

¹⁰E. Iacobucci, R. Winter, Asset Securitization and Asymmetric Information, p. 164.[15]

1.2.5 Credit Rating Agency

Given the complexity of asset-backed securities and the limited financial expertise of many investors, credit rating agencies play a central role in facilitating informed investment decision. They serve as a crucial bridge, mitigating information asymmetries between insiders (originator and SPV) and outsiders (capital market and investment community): by providing a standardized, easily understandable assessment of creditworthiness, credit ratings effectively reduce the informational asymmetries that investors would otherwise incur in conducting their own due diligence. As a result, the market for ABS becomes more accessible and liquid, benefiting both issuers and investors thanks to more market transparency.

Sometimes it's possible that rating agencies don't have access to the full set of information held by insiders and, as a consequence, they may not provide the most accurate rating. In each case, they help conveying information to outside investors.

Furthermore, the use of asset certification by rating agencies is also a signal of high quality to the general market: if a firm believes that its assets are not of good quality, it will not even resort to securization to avoid the high transaction costs involved and only high-quality firms will incur in them.¹¹

Credit rating takes into account several factors including the quality and diversity of the IP portfolio, the strength of the originator's business model, the legal structure of the securitization and the expected cash flows generated by the securities issued. A higher credit rating suggests a high likelihood that the security will generate sufficient cash flows to repay both principal and interests to investors within the specified time period: this positive assessment reflects the agency's confidence in the underlying IP rights but also the originator's skills in managing them and the overall financial stability of the transaction.

In general, investors prefer to invest in securities with higher credit ratings and, as a consequence, they are willing to accept lower interest rates. This benefits the originator as it can obtain financing at lower costs and has access to a broader range of investors, including those who are seeking for low-risk securities.

The leading international rating companies are Standard&Poor's (S&P), Moody's and Fitch Ratings and, sometimes, they may set specific requirements about the securitization's structure as the SPV architecture discussed in paragraph 1.2.2.

¹¹E. Iacobucci, R. Winter, Asset Securitization and Asymmetric Information, p. 183.[15]

1.2.6 Trustee

Trustees play an important role on securitization transactions because they act on behalf of the investors as agents: their primary duty is to protect the interests of investors who purchase the securitities and administer the duties of the SPV according to the aggreements. In order to provide investors with assurance that they will receive the expected payments, a legal claim (*lien*) is estabilished over the underlying assets. This lien is normally recorded in the name of a trustee. The duties of a trustee are several and include:

- supporting the security issue: the trustee will establish the SPV trust for the asset securitization and ensure that the trust has received clear title to the assets, free of any liens or charges. Since assets are used as collateral for the repayment of the securities, it's important that they are not subject to the claims of other creditors of the originator, that is they will be *bankruptcy-remote*. ¹²
- co-working with the servicer and administering the trust: the trustee has to monitor the deposit of the royalties deriving from the IP rights in the trust account for the benefit of the security holders and to oversee the performance of other parties involved in the transaction, including the servicer. The servicer will typically provide payment collection services together with the provision of periodic reports regarding the state of the cash flows deriving from the IP rights (amounts collected and charged off). The aim is to monitor the status of the pool, assuring investors that they will receive disbursements on the terms set out in the transaction documents.
- ensuring the conformity of all actors involved: in the event of a breach of contract by one or more parties, especially the originator, the trustee becomes more involved and notifies the securities holders of the problem and awaits their instruction on how to address it. In general, before declaring the issue in default and taking subsequent legal actions, the trustee collaborates with the servicer to solve the problem. In the transaction documents there is usually a clause allowing the trustee to replace the servicer if it fails to carry out its duties according to the terms of the aggreement: in that case, the trustee works as a temporary servicer until a new one is appointed. ¹³

 $^{^{12}\}mathrm{A}$ more in-depth look at how to become bankrupt cy-remote is described in paragraph 1.2.2

¹³https://www.wilmingtontrust.com/library/article/role-of-the-trustee-inasset-securitization

The trustee's responsibilities are explicitly defined in the trust agreement. These duties become more extensive and involve greater oversight if the Originator fails to comply with the agreed-upon covenants.

Finally, a trustee is usually and independent firm and experienced ones can guide the parties efficiently, facilitating a smoother process. Moreover, they are more likely to ensure that asset securitization achieves the objectives of the originator, regardless of its level of experience in this field.

1.2.7 Credit Enhancers

Generally, several credit enhancement mechanisms are applied in the securitization market to mitigate the risks faced by investors in ABSs. These mechanisms serve as a safeguard and their primary objective is to shield investors from the inherent risks associated with the royalty streams generated by the underlying intellectual property rights. There are two main advantages deriving from their application: higher probability that the security will be redeemed in full and within terms and improvements in the rating given by rating agencies.

Often, different forms of enhancements may be combined and they are typically categorized in two primary groups according to the entity responsible for assuming the risks. The distinction depends on whether the risk-bearing party is involved within the securitization process itself or operates outside of it. External credit enhancement involves a third-party financial institution, as bank or insurance company, which is not involved in the transaction while, in internal credit enhancement, the originator is typically the party which retains the risk exposure.

External credit enhancement

External credit enhancement relies on financially robust entities, such as banks or insurance companies, to provide guarantees or insurance against the risk associated with securitized assets. A rating agency assesses the necessary level of protection that the guarantor or insurer must provide to ensure that the securities achieve an investment-grade rating: credit rating in one of the higher four ratings reflects a debt with a high likelihood of payment while lower ratings suggest more speculative and riskier debt. Until the specified coverage threshold is reached, the guarantor or insurer bears full responsibility for any lossess incurred. In a *one-off securitization*, the instrument used by banks is typically the letter of credit which is equal to the estimated losses while, in *multi-seller securitization conduits*, liquidity facilities are preferred to ensure timeliness of payments.¹⁴

Often, the originator retains the initial risk exposure. Trough the absorption of a portion of the losses, moral hazard and information asymmetries between the originator and the guarantor regarding the risk are minimized.

Internal credit enhancement

There are several internal credit enhancement mechanisms which can be used to improve credit rating. One of them is the so-called *over-collateralization*: it consists in adding assets to the pool backing the securities such that the value of the underlying assets exceeds the value of the securities issued. The gap serves as a buffer against potential losses for investors. Improving the credit rating of asset-backed securities as a result of employing internal enhancers enables the achievement of higher returns in the capital market and thereby compensates the originator for the costs entailed in enlarging the number of assets that are backing the securities. Even if it's a valuable tool, it typically requires supplementary credit enhancement to achieve top-tier rating.

Another common practice is of internal credit enhancement is to create tranches of ABSs, each with a distinct priority ranking. Usually called as *senior-subordinated structure*, at least two classes of securities are issued: senior and subordinated securities.

Senior ones have a prior claim on the royalty streams from the underlying assets so that all losses will accrue first to subordinated securities up to the amount of this particular class. ¹⁵ Typically, senior securities are sold to the general investment community while subordinated ones are purchased by the originator or allocated to sophisticated investors because they are more risk-tolerant than the average investor. Therefore, interest rate on subordinated securities would be higher than senior to compensate for the greater risk. The decision to purchase subordinated securities by the originator is justified by the fact the it has the best knowledge about IPRs backing the securities and this information asymmetry often leads to undervalued offers from eternal investors. As a consequence, to avoid selling at a discount, the originator may choose to retain ownership rather than divest them to external parties.

Retaining ownership of subordinated securities by the originator can mitigate moral hazard and promote responsible behavior throughout the securitization process:

¹⁴L. Schwarcz, The Alchemy of Asset Securitization, p. 139-140.[40]

¹⁵Thomas E. Plank, The True Sale of Loans and the Role of Recourse, p.305. [36]

the originator has an incentive to select high-quality assets, as any losses would initially impact the subordinated securities. For example, if an issue consists of 80% senior and 20% subordinated securities, holders of subordinated ones will carry all the losses up to 20% of the total assets in the transaction. Moreover, when the originator also serves as the servicer, holding subordinated securities can motivate it to manage problems efficiently in order to maximize returns.

The result is a blended interest rate that is beneficial for the originator as it is typically lower than the rate that would be necessary if only a single class of securities were issued. 16

1.2.8 Underwriter

The role of underwriters in securitization is similar to that in other methods of securities issues: one or more underwriters manage the relationship between the SPV and investor in capital market. They act as arrangers representing the issuer (SPV) and structure the security tranches to align with investor demand together with the support of rating agencies, ensuring a successful offering by aligning the security tranches with investors' risk preferences. In particular, they determine the number and price of securities, marketing them to potential investor: their profit derive from buying a specified amount of the offer at a discount before reselling to investors.

In addiction, underwriters provide liquidity support in the secondary market: they ensure a successful offering by committing to buy any unsold securities in the secondary market.

The underwriting role in securitization is often dominated by investment and commercial banks. Their deep experience, coupled with extensive resources for screening and monitoring, allow them to conduct rigorous due diligence on issuers. As a result, they enhance the certification of securities, directly benefiting investors by providing them with clear and reliable information about the quality of the underlying assets.¹⁷

¹⁶L. Schwarcz, The Alchemy of Asset Securitization, p. 143.[40]

¹⁷N. Cetorelli and S. Peristiani, The Role of Banks in Asset Securitization, p. 49-57. [4]

The following diagram 1.1 presents a general overview of how securitization works, with arrows representing the flow of information and capital among the various actors involved in the process.¹⁸



Figure 1.1: Intellectual Property Securitization Transaction Structure and Payment Streams diagram

1.3 Securitization's benefits

Economic and legal scholars agree that securitization has a positive impact on the efficiency of capital markets and the operational effectiveness of market participants. This section will explore the multifaceted benefits of securitizing IP rights, examining its advantages from multiple perspectives: that of the originators seeking financing for their ventures, that of investors looking for new investment opportunities in the capital market and that of the broader public interest in fostering creativity and innovation. Some of them have already been introduced in para-

¹⁸The diagram is adapted from [41], p. 143.

graph 1.2.1 and in this section they are described more in detail.

1.3.1 Alternative financing: non-bank credit

The securitization market offers a viable alternative to traditional bank lending, providing a supplementary avenue for financing. When a company is looking for capital to finance its own operations and investments, it typically relies on a bank. Doing so, however, presents certain limitations. Firstly, a bank's capacity to extend credit is constrained by its available capital, which is subject to regulatory requirements and risk management considerations. In particular, to safeguard depositor interests and ensure the overall stability of the financial system, regulatory authorities impose CARs¹⁹ on banks, thereby limiting their risk-taking and leveraging capabilities. As a bank's capital reserves approaches the regulatory minimum, its capacity to extend new loans diminishes, potentially hindering economic growth and investments.

Furthermore, banking regulators worldwide impose lending limits on individual borrowers and groups of borrowers to mitigate credit concentration risk, safeguard the stability of the banking system, and ensure equitable access to financial services for a diverse range of borrowers. The imposition of lending limits can result in situations where bank credit is insufficient to meet the financing needs of originators, particularly for large-scale projects or complex transactions. In such cases, securitization offers a valuable solution by providing a non-bank source of funding, mitigating the impact of credit constraints and ensuring the availability of capital for economic activities.

Even when traditional bank financing is feasible, the presence of the securitization market is an alternative source of financing which can potentially lower borrowing costs.

1.3.2 Cutting financing costs

Securitization of IP rights is designed to substantially reduce the financing costs for IP owners. By securitizing IP rights, originators can issue ABSs, which are backed solely by the specific IP assets, separating them from the rest of its business: as a

¹⁹Standing for capital adequacy ratio, CAR is an indicator of how well a bank can meet its obligations. Determining the bank's risk of failure, it's critical to ensure that banks have enough financial cushion to absorb a reasonable amount of losses before becoming insolvent.

consequence, this allows to determine the cost of financing only on the quality of the assets pledged without taking care about the originator's risk of bankruptcy (paragraph 1.2.2).

Originators facing challenges in accessing credit through traditional methods, like bank loans or corporate bond issuance, can leverage their valuable IP rights to access capital markets through securitization. As investors determine the creditworthiness of the securities only based on the quality of the underlying intellectual property assets, originators are able to obtain financing at relatively low interest rates.

Therefore, securitization provides IP owners with an efficient and cost-effective financing mechanism by isolating the risk associated with the specific IP assets, thereby reducing the overall cost of capital.

1.3.3 Off-book financing

Under standard accounting principles, a secured loan is recognized as a liability on the borrower's balance sheet, thereby affecting its ability to raise additional capital. In contrast, securitization is classified as off-balance-sheet financing as it involves the transformation of one asset class (future royalty streams) into another (liquid cash), without directly increasing the borrower's debt obligations. In practice, as described in paragraph 1.2.2, IP assets are transferred to a special purpose vehicle through a true sale. Off-balance sheet financing is appealing for originators as they avoid the increasing of their debt-to-equity ratios, thereby preserving their creditworthiness and financial flexibility.

Despite that, securitizing intellectual property streams does not fully divest the originator of their underlying rights: indeed, once the asset-backed securities are fully redeemed, the royalty income streams are returned to the originator.

Retaining ownership of IP rights offers significant advantages in the IP landscape, as it allows the originator to have flexibility in managing and monetizing its intellectual property. Indeed, it can both directly exploit its IP and license specific rights to third parties on a variety of terms, maximizing the value generated.²⁰

²⁰D. Solomon and M. Bitton, Intellectual Property Securitization, p. 161-164.[41]

1.3.4 Portfolio diversification

Securitization of IP rights enriches the capital market by offering investors a new asset class, thereby increasing investment opportunities and diversifying portfolios. The diversification benefits of IP securitization are particularly pronounced in multi-seller conduit structures, where securities are backed by a large and diversified pool of IP rights sourced from multiple originators, further reducing investment risk.

Moreover, thank to the technology advancements and through financial engineering, the royalty streams generated by the IP rights can be segmented into multiple sub-streams, each of which is issued against a specific series of asset-backed securities. Typically, a royalty stream can be divided into two tranches of asset-backed securities with distinct maturities: one tranche representing early-year royalties and another representing later-year royalties. The return profile of each security tranche is tailored to its specific risk and maturity characteristics and, potentially, there is no limit to the complexity of structures that can be employed to divide and allocate royalty streams into various tranches.

By segmenting the royalty stream into multiple sub-streams, securitization enables the creation of a diverse range of securities that can satisfy the specific needs and risk preferences of various investor types. For instance, long-term securities may be attractive to patient investors like pension funds, while short-term securities may appeal to more impatient investors such as commercial banks. The availability of securities with diverse risk and return profiles empowers investors to tailor their investments to their specific risk tolerance and return objectives. In essence, securitization enhances the alignment between capital market investment channels and the diverse preferences of market participants.²¹

By doing that, securitization can maximize the overall value of the transaction creating added value with respect the direct investment in IP rights: the result is a compound return both for investors and originators because their interests are met.

Essentially, the financial engineering inherent in securitization can create a synergistic effect, where the combined value of the individual securities exceeds the value of the underlying IP rights.

²¹Michael H. Schill, Uniformity or Diversity: Residential Real Estate Finance Law in the 1990s and the Implications of Changing Financial Markets, p. 1261-1270. [38]

1.3.5 Fostering innovation and Enhancing Enterprise Value

The securitization market for intellectual property rights directly benefits society by allowing creators and inventors to monetize their rights efficiently. By providing a mechanism to quickly and easily convert IP assets into liquid capital, securitization stimulates investment in research, development and creative endeavors. Indeed, the income generated through this transaction is typically reinvested in further innovation in order to foster creativity and innovation.

Moreover, intellectual property represents an increasingly valuable asset in the economic landscape, significantly impacting the enterprise value. This is particularly true in the case of M&A. Traditionally, the valuation of IP assets in M&A transactions was a complex and costly process, often characterized by significant information asymmetry between buyer and seller: due diligence involves substantial costs and time, usually borne by the buyer.

The securitization of intellectual property has introduced a new scenario, offering a range of benefits:

- Reduced transaction costs: by delegating due diligence to an independent servicer or trustee, securitization significantly reduces the costs incurred by the parties involved.
- Increased transparency and reduced information asymmetry: the valuation of IP is carried out by a third-party, impartial entity, ensuring greater objectivity and transparency in the process. This results in more informed decisions by buyers.
- Diversification of funding sources: companies can access new sources of capital, expanding their growth and development opportunities as they have access to a broader investor base.
- Facilitation of carve-out processes: carve-out transactions, involving the sale of a portion of the IP portfolio, are simplified through securitization, which allows the IP to be divided into tranches and sold separately.

Therefore, intellectual property plays an increasingly central role in M&A transactions. Securitization, in particular, is an innovative tool that allows these assets to be best valued, offering numerous advantages to both companies and investors/seller and buyer. The perceived value of the company is enhanced in the eyes of the buyer, especially if the seller have solid and well-protected IPRs.²²

In conclusion, IP securitization can significantly lower barriers to entry. By converting IP assets into securities, it allows even small, non-sophisticated investors to participate, increasing the overall liquidity of the IP market. The pool of the underlying assets provide investors the benefit of diversification, even with relatively small individual investment. Moreover, the involvement of players as trustee, credit rating agencies and servicer enhances transparency, leading to lower investment costs and more informed decision-making.²³

 $^{^{22}\}mathrm{M}.$ Farhadi and G. Tovstiga, Intellectual property management in M&A transactions, p.34-39.[9]

²³Edward J. Janger, The Death of Secured Lending, p. 1769-1770.[19]

Chapter 2

Case studies

One of the most valuable potential of IP securitization is the ability to unlock the inherent liquidity of intellectual property itself without necessarily requiring the company to intervene through its own capital and/or by using non IP-assets to support any liquidity crises. In this way, these asset can be fully dedicated to the company's core business without negatively impacting it.

The origins of intellectual property securitization can be traced back to the late 1990s, followed by a growth in its application in the early 2000s. Not all types of intellectual property are suitable for being used in this financial operation due to their nature: patents, copyrights and tradermarks are the most widely used due to both the ease of transfer to the SPV and their quantificability compared to other types. Even if the general securitization structure is the one described in Chapter 1, it should be noted that the specifications of each transaction may vary according to the type of the underlying IP asset used.

In this chapter, several case studies are analyzed: for each of them, a brief overview of the company who pledges the assets is provided in order to understand what might have been the economical, strategic and financial rationales behind the choice of this type of investment. Furthermore, a comparative analysis of these transactions is conducted to identify analogies and differences together with possible emerging trends and impact on the financial market.

2.1 Patent securitization

Securitization enables patent-holding companies to boost the monetization of revenues from licensing the patented product or process in order to unlock immediate liquidity to cover significantly high upfront R&D costs.

Considering all IP-backed securities, patent-backed securities (**PBS**) represent a minority as a wide range of issues limits their applicability and diffusion, thereby reducing confidence for both buyers and sellers. They represent an intricate financial instrument and its development and implementation entails significant structuring costs. These costs arise from from the complexity in the valuation of intellectual property and the need for robust legal and financial frameworks. Indeed, the lack of standardized and universally recognized methodologies for valuing intellectual property rights ¹, combined with the inherent volatility of patent value, represent a critical hurdle in accurately assessing the risk profile of the underlying patent portfolios, ultimately affecting the securities issued from them.

These are the main reasons why patents are primarily used for defensive purposes, especially patent infringement lawsuits and defense against possible competitor, rather than tools for generating revenues.

Nevertheless, effective patent exploitation provide a significant funding opportunity for companies, particularly in highly innovative sectors such as biotech and pharmaceutical industries, which are characterized by high patent production rate and where patents are part of their core business. Furthermore, a robust patent portfolio enhances the strategic value of the company: it represents a positive and encouraging signal to potential VCs or potential acquirers considering M&A, as already discussed in paragraph 1.3.5. As a result, the under-exploitation of intellectual property represents a missed opportunity to leverage valuable assets that could be used to attract less onerous forms of financing than traditional ones.

The pharmaceutical industry is facing significant challenges in developing new drugs due to patent expiration, decline in R&D productivity and decreased profitability. A key factor is the inefficiency in converting basic researches into clinically viable products and, to close this gap, more translational researches are required. The resulting longer development timelines increase costs and shorten the patentprotected period: as the time during which products maintain their *original* status is reduced, risks in developing new innovative drugs are further increased, thereby discouraging future investments. Securitization plays a crucial role in mitigating

¹More details about the valuation of IP is provided in Chapter 3

these challenges and risks by providing advance payments of future profits, contributing to sustaining the company's business.

In the pharmaceutical industry, the current value chain for new drug development includes R&D process from basic research to market approval. Moving towards drug development (clinical trials), the risk of market failure decreases and the value of a new drug candidate rapidly increases along the value chain: this is due to the increasing certainty surrounding the efficacy and safety product's profile as it progresses through various stages of testing.

However, each development stage entails significant costs, requiring collaboration and coordination among multiples companies to efficiently fund and execute the required research. The period of time from the basic research to preclinical trials, as shown in table 2.1, typically lasts between 3 and 10 years, accounting for half of the total development period.

	Scientific research: chemistry and pharmacology		Development: medical testing and clinical trial			
		3 - 10 years			3 years	
Timing	~ 10 years	Phase I	Phase II	Phase III: Registration	Phase IV	
Rate of dropout	99%	70%	20%	5~8%		
Cost per drug	\$2.8 billion	\$1.3 billion	\$1.9 billion	\$2.8 billion		
Level of Risk	High	Medium		Lo	Low	
Dimensions of Cooperation	Networks/informal cooperation with clusters (University- industry linkages)	Horizontal alliances for product development (University- industry partnership)		Acquisition biopharn	s by larger 1a firms	

Table 2.1: Characteristics of Drug Development Phases

Despite the substantial investment and time commitment, the drop-out rate in this phase is very high (99%), indicating that most of the new drug candidates aren't able to reach the clinical trial phase. As a consequence, the general high initial investment is not reflected in an increase in value but, once clinical trials are reached, the drop-out rate significantly declines, dropping to 70%, 20% and 8% across the three phases respectively. Concurrently, the cost of drug development increases but this is justified by the reduced risk of failure and the increasing value of the drug candidate. Products which are able to complete all the stages often receive regulatory approval from **FDA** and **EMA**, subject to rigorous scientific and regulatory evaluation. ²

²S. Lim and M. Suh, Intellectual Property Business Models Using Patent Acquisition: A Case Study of Royalty Pharma Inc. [20]

In the common scenario, there are information asymmetries about the R&D investment required between entrepreneurs and investors that, combined with the complexity in assessing the value of the patented technology and the possible unwillingness to reveal full information by inventors, create the potential for agency problems. Securitization can help mitigate these risks and simultaneously enables patent-holding companies to continue developing their products without necessarily resorting to traditional forms of financing.

In the following paragraph, two case studies of patent securitization undertaken by Royalty Pharma are analyzed: while one investment was less successful than predicted, the other yielded the intended outcomes. Both of them were driven mainly by the need for immediate liquidity to support ongoing research and development costs.

2.1.1 Royalthy Pharma

Company overview

Funded in 1996, Royalty Pharma is an alternative investment company focusing on royalty streams investment in the pharmaceutical industry. In 1980s, key members of the current management team and investment committee played a central role in establishing *Research & Development Partnerships* to fund clinical development of promising pharmaceutical products through royalty interests. Recognizing the potential of this strategy, Royalty Pharma's founder, Pablo Legorreta, leveraged his experience in cross-border mergers, acquisition and corporate finance advisory services to establish two acquisition vehicles in 1993 and 1994. They are used to acquire royalty interests in *Neupogen* and *ReoPro*, two leading biotechnology products at the time. They represent the predecessors which were consolidated to form Royalty Pharma as it currently operates. ³

Referring to 2015, it is a privately owned and unlisted company located in New York (US) and, despite its relatively small team size of 21 employees, the company has a remarkable level of profitability, generating royalty income of more than \$800 million. Its portfolio consists of 26 FDA/EMA-approved products for a estimated value that exceeds \$10 billion, with two additional products currently under development that place it as the global leader in dedicated royalty investment entities.⁴ Royalty Pharma can be considered a **patent aggregating company** (**PAC**), a firm which focuses on acquiring patents without engaging in research and development or physical production. By acquiring commercialization rights, PACs mitigate the information asymmetry between patent owners and potential buyers, facilitating patent sales and licensing: in particular, they address information asymmetries by analyzing and inspecting patents.

Depending on how patents are used, there are several PAC types: referring to Royalty Pharma, it can be identified as a **royalty monetization company**, often referred to a *gardener* type. The main focus of these companies is on patents with long-term revenue potential, such as those related to pharmaceutical products. Royalty monetization companies are based on agreements between patent owners and licensees that generate predictable cash flows. By issuing bonds backed by

³Andrew W. Lo and Sourya V. Naraharisetti, New Financing Methods in the Biopharma Industry: A Case Study of Royalty Pharma Inc., p. 6.[21]

⁴Actually, the company was listed in 2020 and, as of today (2024), its current portfolio consists of royalty interests in 53 pharmaceutical products (https://www.royaltypharma.com/ourfirm/our-portfolio/). The decision to use 2015 data is because the company's structure is more similar to that present at the time of the transactions analyzed below.

future royalty streams, they provide upfront capital to pay dividends to investors and fund the patent owners. Basically, they mainly trade with research institutes and small and mid-size biotech or pharmaceutical companies, assuming the risks associated with licensing and R&D: in that way, they allow patent owners to allocate resources to new R&D opportunities without compromising their immediate needs, ultimately promoting innovation and future growth. Moreover, instead of traditional loans, these companies provide upfront lump sum payment secured by future royalty streams and, in the event of insufficient royalty income, the royalty monetization company absorbs the losses ensuring that patent holders receive anticipated profits. By securitizing patent royalties through financial products as bonds, these companies offer investors a unique opportunity to participate in the intellectual property market.

To sum up, the core strategy of royalty monetization companies involves providing alternative financing to patent owners, leveraging on patents to create and market financial products (bonds), thereby accessing additional capital.

BioPharma Finance Trust (2000)

The first patent-backed securitization (PBS) transaction occurred in August 2000. In this deal, Royalty Pharma acquired and securitized the royalty stream associated with Zerith[®], an innovative drug for the treatment of HIV infection.

Yale University, the original patent holder (1985), licensed the drug development to Bristol-Myers Squibb Co. in the late 1980s. The US Food and Drug Administration (FDA) approved Zerit® in 1994. Yale retained ownership of the drug and a 70% stake in the royalties, while the remaining 30% going to the two inventors. In a true-sale transaction, Yale University sold its royalty stream to Royalty Pharma: this stream, backed by the underlying patent, became the asset underlying the first-ever PBS deal.

To realize the transaction, a bankruptcy-remote special purpose vehicle (SPV) named **BioPharma Royalty Trust** was created. The deal involved approximately \$115 million, including \$57.15 million in senior debt, \$22.0 million in mezzanine debt and \$22.16 million in junior debt. Leveraging on the royalty stream generated by drug sales, BioPharma Royalty Trust secured a six-year loan (from September 2000 to June 2006) to cover a portion of the purchase price, specifically \$100.3 million in senior, mezzanine, and junior notes. The remaining \$14.69 million was provided by three equity partners: Royalty Pharma, BancBoston Capital and Yale University. In addiction to equity, Yale University received a \$100 million

cash payment.⁵

Beyond the originator and licensing partners, several other key stakeholders were involved: Bankers Trust Corp. served as the transaction's trustee, Westdeutsche Landesbank Girozentrale (West LB) was the lead arranger, Clifford Chance provided legal advice, and Wilmington Trust Company acted as the servicer. Bio-Pharma Royalty Trust has pledged its quarterly cash flows to Bankers Trust Co. under a collateral trust and intercreditor agreement, establishing various operating accounts and authorizing the collateral trustee to collect and distribute funds in the following way. Bristol-Myers Squibb pays 100% of the license receivables directly to the collateral trustee, which deposits them into a collection account. The trustee then distributes the funds: 30% to the academic institution (not pledged) and 70% to a distribution account for allocation to various parties, including senior noteholders (West LB).

Standard & Poor's (S&P) was the rating agency responsible for assessing the deal. S&P considered several factors, including the creditworthiness and financial strength of the involved parties, the underlying asset analysis, the transaction's resilience to various stress scenarios and the strength of the pledged revenues. The rating analysis involved both corporate and structured analysis, focusing on industry fundamentals, growth prospects, vulnerabilities, projected cash flows and the legal framework. Key considerations included historical sales, competition, competitive advantage, market share, pricing, HIV/AIDS population (US and global), projected trends in population, product obsolescence risk, patent challenges, generic risks and currency/foreign exchange risks.⁶

Ratings are based on forecasts and assumptions that may change over time and S&P will adjust its forecasts if necessary. Due to the strong creditworthiness of Bristol-Myers Squibb and Yale University (both rated AAA) and the projected sales of Zerit®, S&P assigned a **single A** rating to the deal. Specifically, senior securities received an "A" rating and were structured with a 1.6 debt-service coverage while mezzanine securities were structured with a 1.3 debt-service coverage and achieved an "AA-" rating due to a third-party financial guaranty from ZC Insurance Co., a subsidiary of Center Re. ⁷

Zerit® sales experienced significant growth in the late 1990s, reaching \$398 million in 1997, \$551 million in 1998 and \$605 million in 1999, representing an average

⁵C. Odasso and E. Ughetto, Patent-backed securities in pharmaceuticals: what determines success or failure?, p. 8. [28]

⁶B. Berman, From Ideas to Assets - Investing Wisely in Intellectual Property, p. 485-495. [2]

⁷R. Borod, An Update on Intellectual Property Securitization, p. 68. [3]

annual growth rate of 26%. Market forecasts foresaw continued growth, with sale estimated at \$699 million in 2000, followed by a 10% increase in 2001 before stabilizing. Patent royalty revenues, tied to Zerit® sales, amounted to \$26.2 million in 1997, \$37.5 million in 1998 and \$41.6 million in 1999. In 2000, the first half generated \$20.4 million, with an additional \$24.4 million projected for the second half, totaling \$44.8 million.

In 2001, Standard & Poor's recognized BioPharma Royalty Trust as a "model for future deals going forward". However, subsequent years revealed a divergence from these projections: Zerit® sales declined to \$443 million in 2002, falling short of expectations. Contributing factors to this shortfall included:

- Discounted Sales: Bristol-Myers Squibb initiated discounted sales of its entire Zerit portfolio to wholesalers in the second half of 2001 to meet corporate financial targets.
- Credit Rating Downgrade: S&P downgraded Bristol-Myers Squibb from AAA to AA in June 2002 due to a decline in its long-term credit rating and, in part, from allegations of inventory stuffing.

Moreover, the transaction included a *built-in* trapping mechanism, meaning that the excess cash flows, beyond what was needed to service debt and maintain coverage ratios, was used to reduced the principal debt balance. While this led to high royalty payments during periods of strong sales, it also limited the availability of cash to investors when sales declined. As a result, the transaction failed in November 2002 when BioPharma Royalty Trust entered into early amortization due to three consecutive covenant breaches.⁸

Several factors contributed to the failure of BioPharma Royalty Trust. Firstly, the reliance on a single licensee and the absence of diversification in the underlying asset base increased the overall risk because any decline in sales or changes in the competitive landscape negatively impact the cash flows. Additionally, the initial credit ratings may have been overly optimistic, overestimating the securities' strength and neglecting potential downside risks. This case study highlights the importance of conducting thorough due diligence, carefully assessing the underlying asset and diversify investments to mitigate risk. Moreover, it underscores the need for realistic projections and the importance of having robust contingency plans to address unforeseen challenges.

⁸F. Munari, C. Odasso, L. Toschi, IP-backed finance, p. 19-20. [25]

Royalty Pharma Finance Trust (2003)

In July 2003, Royalty Pharma issued a second patent-backed securitization known as the Royalty Pharma Finance Trust (RPFT). Learning from the lessons of the Zerit® securitization, this transaction was backed by a diversified pool of patents and licenses, mitigating risks associated with individual asset performance. The deal raised \$225 million through the issuance of variable funding notes with an expected seven-year maturity - July 31,2010 - and a legal final maturity of nine years - July 31,2012, in combination with quarterly amortization.

The transaction included royalty streams from 13 pharmaceutical patents, although only nine were generating revenues at the time of deal. The remaining four patents were in the later stages of FDA approval and, subject to the approval of MBIA and rating agencies, were expected to be added to the pool, increasing borrowing capacity. The transaction also allowed for the inclusion of future pharmaceutical royalty assets meeting specific criteria and conditions.

Royalty Pharma, acting as the originator, established a special purpose vehicle, **Royalty Pharma Finance Trust**, to structure the deal managed by Credit Suisse First Boston. The originator retained ownership of the underlying patents and licenses, transferring only the rights to receive royalty payments to the SPV. Deutsche Bank Trust Co. Americas, an Irish Trust, acted as the transaction's trustee and MBIA Insurance Group provided insurance, guaranteeing timely interest payments and the ultimate repayment of principal by legal final maturity.

The underlying patents have expiration dates ranging from 2005 to 2015.⁹ The pool of 13 drugs included products from several companies, such as Genetech's and Biogen Idec's Rituxan®, Celegen's Thalomid®, PrePro® from Eli Lilly and Johnson & Johnson/Centocor, Centocor's Retavase®, Chiron's TOBI®, Norvatis' Simulect®, Roche's Zenapax®, Ligand's Targretin® Capsules, Memorial Sloan Kettering's Neupogen/Neulasta®, Organon's Variza®, Glaxo Smith Kline and Adolor's Entereg®, Pfizer's lasofoxifene® and Wyeth's Bazedoxifene®. For the 12 months ending December 31, 2002, the nine patents currently generating royalty payments were associated with approximately \$4.4 billion in sales for the licensee companies. Additionally, approximately \$49 million was generated from royalties through pharmaceutical patent licenses or contingent patent rights acquired from third parties. These rights gave the holder to payments based on drug sales.

The licensees under the patent licenses and the debtors under the contingent payments rights were a diverse group of investment-grade companies. The majority of

⁹R. Borod, An Update on Intellectual Property Securitization, p. 68-70. [3]

the assets in the pool were linked to biologic pharmaceutical products targeting lifethreatening diseases. The initial nine cash-generating assets were associated with drugs holding either the first or second market share position in their respective categories. In January 2004, a portion of the royalty interest in Neupogen/Neulasta®, owned by the Memorial Sloan Kettering Cancer Center, was added to the SPV, adding \$263 million in the transaction.¹⁰

The RPTF transaction received an **AAA** rating from Standard & Poor's and **Aaa** from Moody's, primarily due to the financial guarantee policy issued by MBIA. However, the agencies also considered several other factors when assigning the underlying rating to the notes:

- Historical Performance: the historical royalty payments generated by the portfolio, adjusted for potential risk factors that could impact future payments.
- Diverse Application: the diversity of commercial applications of the underlying collateral.
- Licensee Credit Quality: the creditworthiness of the various licensees.
- Servicer Experience
- Structural Features

S&P was willing to assign a rating to the notes despite the fact that they were only collateralized by the royalty payment rights, not by the underlying patent themselves. S&P determined that even if the licensor went bankrupt and rejected the license, the licensees could choose to continue enforcing the licenses. Thus, the primary risk factor for license rejection was considered the licensees *reasonable business judgment*. After analyzing licensees' investments in commercial exploitation and the likelihood of success of their commercial applications, S&P concluded that the rejection risk was lower than the bankruptcy risk of the lowest-rated party to the license agreements. This is because the probability of rejection was closely tied to the drug's performance at the time of bankruptcy, a factor already considered in the credit analysis of the related royalty asset.

In 2008, the deal was still active on the market and had increased in size several times, reaching a total size of \$2.2 billion with a BBB- rating. This deal is considered a success due to the progressive increase in capital raised after the initial

¹⁰Mei-Hsin Wang, Legislation Study on Patent Securitization, p. 76-77. [42]
issuance and its longer lifespan compared to the Zerit® deal.¹¹ This transaction was designed to address the limitations of the previous deal, offering greater diversification by using multiple patents and licenses, thus reducing the risk associated with relying on a single asset.



Figure 2.1: Royal Pharma Finance Trust Legal Structure

¹¹C. Odasso and E. Ughetto, Patent-backed securities in pharmaceuticals: what determines success or failure?, p. 9. [28]

¹Sale does not include underlying patents or licenses.

 $^{^{2}}$ True Sale. 13 separate royalty assets, of which 9 income-producing at closing.

2.2 Copyright securitization

Another form of IP securitization involves copyright royalty revenues from unreleased films. These revenues are monitored by performing-rights organizations representing publishers, songwriters and/or movie studios. The variety of sources and tracking mechanisms makes the rating process more complex. Ratings are generally based on historical collection data adjusted for potential risks such as changing in tastes, obsolescence, copyright infringement, bankruptcy and other legal issues.¹²

Considering films' field, film-backed securities are rated on a scale ranging from **Aaa** to **Baa3** based on a comprehensive asset quality analysis. In particular, the analysis focuses on two primary areas:

- Fundamental Analysis of the Studio: unlike traditional asset-backed securities, film studios must consistently produce new contents to sustain future securitizations. Beyond production, they are responsible for marketing and distributing films to maximize revenues. The studio's financial health is determined according to the ability to fulfill these obligations and build a diversified film portfolio. Major studios, with their established track record, strong pipelines and extensive distribution networks, are well-positioned to achieve higher ratings. These industry giants were pioneers in the film securitization market, representing the *lion's share* of the transactions. Smaller or less established studios may need to employ specific structuring techniques to achieve higher ratings.
- Film Performance Analysis: the variety of revenue streams generated by films has made it easier for studios to recover productions costs. Securitization typically finance only production expenses, meaning that average film performance often exceeds the debt service required for the securitization, while additional costs, such as marketing and distribution, are typically borne by the studio and are repaid after bondholders. This represents an alignment of interests, thus incentivizing studios to maximize film revenues.

While average film performance is sufficient to cover debt service, individual film performance can vary widely. To mitigate that risk, pooling multiple films together is an option: this diversification strategy reduces the impact of underperforming films. Studies have shown that a portfolio of around 10 films can typically achieve investment-grade ratings, while smaller portfolios

¹²R. Borod, An Update on Intellectual Property Securitization, p. 67. [3]

require a stronger studio track record to offset increased risk. Rating agencies like Moody's evaluate the studio's financial stability and production pipeline to assess the ability to build a sufficiently diversified portfolio, thereby providing investors with valuable insights about studios' creditworthiness.

The rating process heavily relies on the issuing studio's financial strength, particularly due to its ongoing obligations and the fact that the asset transfer is usually not a legal true sale. This analysis is complemented by an evaluation of the studio's historical performance and its future prospects.

The transaction's structure, including triggers, is also analyzed. Triggers, tied to both the studio's financial health and film performance, are designed to protect investors in case of studio's bankruptcy, accelerating payments or prioritizing bondholders claims. Additionally, *clawback* provisions can be included to recover funds paid to the studio to cover principal and interests shortfalls. Even if triggers enhance the credit profile, they cannot fully eliminate bankruptcy risk: therefore, even with strong triggers, the transaction's rating is ultimately limited by the studio's credit quality.¹³

Copyright-backed securities (**CBS**) offer several benefits to movie studios, including:

- Risk Transfer: shifting some of the film performance risk to bondholders.
- Alternative Funding
- Accelerated Capital Reimbursement: earlier recovery of capital invested in film production.
- Off-Balance Sheet Accounting.

Historically, only major studios with strong track records have qualified for this type of financing. However, smaller and independent filmmakers, who often rely on expensive traditional sources like self-funding, venture capital, grants, bank loans, and distributor advances, could also benefit from such financing. The increasing cost of film production makes traditional funding sources less viable. Indeed, they are less suited and more complex to stage in as production costs accelerate and drop off, and publicity and advertising costs increase. Moreover, these methods are typically more expensive. By accessing the capital market, established companies can plan their production with greater certainty: reducing risk can lead to lower

¹³B. Berman, From Ideas to Assets - Investing Wisely in Intellectual Property, p. 452-456. [2]

financing costs, making capital market financing an attractive option for the film industry.

The basic structure of future film securitizations involves a trust that purchases completed films ready for release, avoiding film completion risk. Typically, a studio's entire future slate of completed films, subject to specific criteria, is sold to the trust to prevent selective choices.¹⁴ The trust pays the film's production costs, overheads and interests up to certain limits, preventing the trust from concentrating its funds on few expensive films. In exchange for the purchase price, it gets the ownership of the film and the right to receive all related revenues, which are then allocated to debt service, distribution expenses and other transaction costs. Moreover, many deals have a revolving structure, meaning that revenues are re-invested to purchase additional films. The studio is often licensed to market and distribute films, leveraging on its expertise in order to maximize revenues: this role is similar to servicing responsibilities in traditional asset-backed deals.

In conclusion, copyright-backed securitization, while complex, offers significant advantages to the firm industry. By transferring risks to investors and providing efficient financing, it reduces costs and improves flexibility. This innovative approach allows studios, particularly smaller and independent ones, to access capital markets, enabling them to produce more films and take greater creative risks. As the industry continues to evolve, financial professionals will play a crucial role in developing structures that make securitization accessible to a wider range of filmmakers.¹⁵

In the following sections, two case studies of copyright securitization are analyzed. Specifically, the analysis focuses on two well-known film studios, DreamWorks and Marvel, and their respective transactions from the early 2000s. These case studies differ in terms of the specific copyright assets underlying the securities, as well as in their financial size.

 $^{^{14}\}mbox{For example, it limits the ability of the trust to <math display="inline">cherry\mbox{-}pick$ films with the higher likelihood of success.

¹⁵D. Rudder, The decade-long revolution, p. 34. [37]

2.2.1 DreamWorks

Company overview

Founded in 1994 by entertainment industry giants Steven Spielberg, Jeffrey Katzenberg and David Geffen, DreamWorks - also known as **DreamWorks SKG** in the name of its founders - quickly became a dominant force in the film and entertainment world through its several divisions. Each of the three founders brought unique expertise to the company: Spielberg, a renowned director, headed the film division; Katzenberg, the architect of Disney's animation renaissance, oversaw animation and television; and Geffen, a music industry tycoon, led DreamWorks Records, the company's music division.

Despite a promising start, the company's early films faced some box office challenges. However, DreamWorks quickly recouped with commercial successes like *Saving Private Ryan* and *Gladiator*. In 2005, with a strategic move, DreamWorks live-action division was acquired by Viacom for approximately \$1.6 billion, a deal that included about \$400 million in assumed debt. Despite the acquisition, the DreamWorks name and its creative identity remained untouched. In 2009, a longterm distribution deal with *Walt Disney Studios Motion Pictures* was signed. Under this agreement, DreamWorks films were distributed through the Touchstone Pictures label, with Disney earning a 10% distribution fee. Additionally, Disney provided DreamWorks with a \$175 million loan to co-finance films.

With a rich history of storytelling and a constant commitment to innovation, the company has leveraged the latest technologies to create extraordinary animated worlds and offer unique cinematic experiences.

As of today, DreamWorks is a subsidiary of Ambling Partners and, from its birth, it has produced or distributed more than twenty films with box-office grosses of more than 100 million each, including the famous *Shrek*, *The Prince of Egypt* and *The Ring.*¹⁶

DW Funding LLC (2002)

DreamWorks pioneered one of the earliest film copyright securitization in 2002, securing an overall of \$1.5 billion revolving credit facility, involving a \$1 billion film securitization and a \$500 million revolving credit line.

The core of the securitization was a pool of 36 films, whose rights were transferred to a bankruptcy-remote special purpose vehicle, named **DW Funding LLC**. This

¹⁶https://www.encyclopedia.com/economics/economics-magazines/dream-works-skg

true-sale transaction embedded future revenues from various sources, excluding domestic theatrical and pay TV revenues. Excess revenues, after servicing debt, were upstreamed to DreamWorks, which retained sole ownership of DW Funding. A key feature of the deal was the requirement for DreamWorks to assign additional films to the SPV if necessary to meet cash flow requirements. This mechanism, along with rigorous stress testing by rating agencies, addressed potential risks such as production delays, obligor defaults, collection lags, and foreign exchange fluctuations.¹⁷

The transaction used both the established revenue streams of library films as *Saving Private Ryan* and *Shrek*, as well as the anticipated earnings of future releases. A unique aspect of the deal was the timing of rights transfer: films were only assigned to the SPV after demonstrating their revenue potential through eight weeks of domestic release. This strategy ensures that the SPV acquired assets with predictable cash flows.

DreamWorks' CFO, Anthony Hull, explained that a \$100 million box office gross typically translates to \$237.1 million in studio revenue, encompassing various revenue streams. The SPV, in this case, acquired the lower risk, higher margin portion of the films' revenue, while DreamWorks retained the pre-production burden. Furthermore, the securitization's inclusion of 36 films with predetermined television licensing fees provided additional credit enhancement. Broadcasters were obligated to acquire all films, regardless of their perceived success, mitigating the risk of revenue variability.¹⁸

The proceeds from the securitization enabled DreamWorks to expand its live-action film production, fund a new computer-generated animation unit (CGI) in Glendale, bringing the number of animated filmmaking divisions to three, and significantly reduce its borrowing costs. The transaction was co-arranged by J.P. Morgan Chase & Co. and FleetBoston Financial Corp., with participation of multiple banks. The securitization achieved an **investment-grade** rating and a **triple A-** guarantee from Ambac Assurance Corp, a monoline insurance company.¹⁹

¹⁷R. Borod, An Update on Intellectual Property Securitization, p. 67. [3]

¹⁸https://variety.com/2002/film/markets-festivals/dreamworks-reality-1117871821/

¹⁹A monoline insurance company is an insurance company focused on providing only one specific type of insurance product and they typically provide insurance on bonds. In particular, they adopt credit wraps' form to improve the credit rating of a debt issuance or prevent a downgrade.

2.2.2 Marvel

Company overview

Marvel Entertainment LLC - formerly Marvel Enterprises, Inc. - is one of the world's most prominent character-based entertainment companies. Built on a library of over 8.000 characters featured in various media over 85 years, Marvel leverages its franchises in entertainment, licensing and publishing.²⁰

Originally founded in June 1998 as Marvel Enterprises, the company was the result of the merger between Marvel Entertainment Group and Toy Biz. Based in New York City, it primarily focused on consumer products, licensing, comic books published by Marvel Comics, and early ventures into film and television/streaming, including productions within the Marvel Cinematic Universe (MCU). Many of Marvel's iconic characters were designed by Stan Lee: however, on March 15, 2007, Stan Lee Media filed a lawsuit against Marvel Entertainment for \$5 billion, claiming co-ownership of the characters created by Lee, and most of which have been dismissed.

In 2009, the *Walt Disney Company* acquired Marvel Entertainment for \$4 billion. Since then, Marvel has operated as a limited liability company (LLC) and has primarily been reported as part of Disney's Consumer Products segment for finacial reporting purposes. Following the reorganization of Marvel Studios from Marvel Entertainment into Walt Disney Studios, this reporting structure has remained in place.

Over the years, Marvel Entertainment has formed numerous partnerships and collaborations with other companies across various industries. As of 2024, Marvel maintains film licensing agreements with Sony Pictures through Columbia Pictures (for *Spider-Man* films) and theme park licensing agreements with IMG Worlds of Adventure and Universal Destinations & Experiences (for specific Marvel character rights at Islands of Adventure). Beyond its Universal partnership, Marvel characters and properties have also made appearances at Disney Parks. On March 29, 2023, Marvel Entertainment's remaining units were integrated into Disney's other divisions.²¹

To be consistent with the following case study, it is necessary to refer to the company's organization in 2005. Specifically, as of September 30, 2005, the company had a market capitalization of \$1.7 billion and it was a publicly traded entertain-

²⁰https://www.marvel.com/corporate/about

²¹https://marvel.fandom.com/wiki/Marvel_Entertainment

ment company, owning iconic figures as *Spider-Man*, *Hulk*, *Nick Fury*, *Captain America*, *X-Men*. Historically, Marvel has licensed these characters to major film studios such as Fox, Sony, and Universal. These studios finance the production and distribution of films based on the licensed characters, while paying Marvel a licensing fee. This fee often takes the form of an advance against a revenue or profit participation agreement.

MVL Film Finance LLC (2006)

In 2006, Marvel Studios' undertook a copyright securitization, following Dream-Works' one, using the film rights to its most iconic characters and raising a substantial \$525 million. This capital was used to fund the production of 10 feature films.

To manage this complex transaction, a special-purpose vehicle (SPV) named **MVL Film Finance LLC** was established. This entity issued notes, backed by a financial guarantee insurance policy provided by Ambac Assurance Corp.: this significantly reduced the perceived risk for investors, assuring the repayment of interests and principal in case of default. The financial structure of the operation relied on a revolving credit facility, allowing MVL Film Finance LLC to draw funds flexibly, based on the production needs. The repayments of loans was secured by several revenue streams, including box office receipts, merchandising sales, television rights and home video revenues.

To further mitigate risks, Marvel implemented various precautionary measures. These included the pre-sale of distribution rights in key markets such as Japan, Germany, France, Spain and Australia, securing a significant portion of production costs in advance. Additionally, a completion guarantee was required for each film to ensure that production was completed within the projected budget. Another important feature of the operation was a creation of a liquidity reserve, amounting to \$25 million, designed to cover any unforeseen contingencies and ensure the continuity of payments to investors. Moreover, a significant portion of the proceeds was locked in a blocked account (*Borrower Blocked Account*), to guarantee the repayment of investors before distributing any profits to Marvel.

Central to the financing was the film slate, a predetermined list of 10 films based on Marvel's iconic characters. This slate included titles as *Captain America*, *Nick Fury*, *Ant-Man*, *The Avengers*, *Black Panther*, *Cloak and Dagger*, *Doctor Strange*, *Hawkeye*, *Power Pack* and *Shang-Chi*. Each film was projected to be a major event film, with production budgets ranging from \$60 million to \$165 million. To mitigate the inherent uncertainty of film performance, films were based on established Marvel characters and storylines, and the production team included experienced filmmakers. Moreover, the ability to leverage the existing audience awareness of Marvel characters, together with the historical box-office performance of films Marvel had produced in partnership with major studios, provided a strong foundation for the success of the slate.

The securitization consists in the issuance of two primary class of notes: Class A and Class B. Class A notes were the senior notes and represented the primary investment vehicle for investors and they carried the highest rating. Class B notes were subordinated notes and provided additional credit enhancement for the Class A notes, acting as a buffer in case of losses. Their legal final maturity was 11 years from the closing date.

Moody's assigned an **Aaa** rating to the transaction, highlighting the solidity of the financial structure and the low probability of default. This positive assessment was influenced by several factors, including Marvel's solid reputation, the insurance guarantee provided by Ambac Assurance Corp., the diversification of revenue streams and the robust protection for investors.²²

In conclusion, unlike DreamWorks' securitization, Marvel's deal was unique because Marvel Studios didn't have existing film library to pledge royalty revenue from: therefore, the securitization focused on the future potential of its iconic characters. This innovative approach was inspired by the extraordinary success of *Spider-Man* and *The Incredible Hulk*, which demonstrated the commercial viability of Marvel's characters on the big screen.²³

²²F. Fabozzi, H. Davis, M. Choudhry, Introduction to Structured Finance, p. 335-338. [8]

 $^{^{23}\}mathrm{D.}$ Rudder, The decade-long revolution, p. 33. [37]

2.3 Trademark securitization

Compared to copyrights and patents, trademark-backed securitization (**TBS**) is not yet a common practice: securitization of this type of intellectual property has not yet reached its full potential. Most of them are structured under US law. Due to specific provisions in US bankruptcy law, trademark securitization differ significantly from most patent and copyright ones. In the latter cases, it's common to assign royalty receivables to the SPV without transferring ownership of the underlying patents or copyrights. However, this is not the case for trademark ones. Ambiguities in the interpretation of the US Bankruptcy Code have led to the requirement of assigning both the underlying trademarks and the related royalty receivables to the SPV: failure to assign the trademarks could expose the securitization to risks, as a bankrupt originator might be able to reject royalty-bearing licenses as a part of rehabilitation plan, thereby compromising the cash flows to the SPV and its investors.²⁴

In the context of trademarks, significant attention is given to the legal issues arising from the sale of the trademark and its associated receivables by the originator to the special-purpose vehicle. Transferring ownership of the underlying trademark to the SPV in US-based securitizations prevents several legal challenges that must be carefully addressed during the structuring process. These issues may not arise in certain European or other global jurisdiction, where assigning the royalty receivables might be sufficient. Key issues include:

• Assignment of Goodwill and Quality Control: under US law (and the law of many other countries), a trademark cannot be assigned without its associated goodwill. Therefore, the relevant assignments must be carefully structured to avoid omitting goodwill and to ensure that the transaction withstands judicial scrutiny. A trademark assignment lacking goodwill will be an assignment in gross and deemed void under the US law. After the trademark is assigned to the SPV, the originator will have to continue its operations, necessitating a *license-back agreement*. This raises questions about the level of quality control required to safeguard the mark's origin function. Without adequate quality control provisions, there's a risk that the originator might be deemed to operate under a naked license, potentially leading to trademark abandonment.

 $^{^{24}{\}rm The}$ specific regulation governing this practice in several jurisdiction will be examined more in-depth in the subsequent Chapter 4

• Enforcement and Maintenance of Trademarks: the primary responsibility for enforcing and maintaining trademarks lies with the trademark owner, which is in this case the SPV. The SPV's obligation to maintain the relevant marks should be explicitly outlined in the transaction documents.

A more complex issue is determining who should handle infringement cases. Trademark infringement can significantly reduce a brand's value, potentially leading to decreased sales and royalties, all of which could impact the revenue stream supporting securities (bonds). As a trademark owner, the SPV has the legal standing to initiate infringement proceedings. However, in many cases, it may be more practical for the originator to take legal action: therefore, transaction documents between the SPV and the originator should clearly define responsibilities for litigation, cost allocation and distribution of any recoveries.

• Security over Trademarks, Bankruptcy and Foreclosure: to provide reassurance to investors, bonds are typically secured by both the receivables and the underlying trademarks. This security arrangement ensures that investors can have recourse to the trademark if the cash flows generated by the IP asset is insufficient or in the event of default. Securitizing trademarks raises enforceability concerns, especially in the US, where trademark charges must be perfected to be valid. While legal opinions provide some assurance regarding the enforceability of these charges, most deals incorporate credit enhancement mechanisms to minimize reliance on security. A common credit enhancement is a reserve account funded by the originator, which can be used to offset any shortfall in royalties. Additionally, a back-up *servicer* familiar with the originator's business may be appointed to take over operations in the event of bankruptcy, ensuring business continuity and maintaining cash flows.

Moreover, the territoriality of trademarks - but also patents and copyrights - further complicates IP securitization. When structuring a transaction, it's essential to consider whether local trademark, banking and corporate laws support the transaction's structure. Restrictions or limitations on charging trademarks in a key jurisdiction can significantly hinder the viability of a deal. Consequently, due diligence is often considered challenging and costly.²⁵

²⁵E. Madden, S. Rungpry, Securitization moves up the agenda, p. 49-50. [22]

The following diagram (2.2) provides a description of the generic structure of a trademark-based securitization, although it's important to note that each TBS has its own specific features and may deviate slightly from this structure.



Figure 2.2: Structure of a trademark securitization

In the subsequent three paragraphs, three case studies of trademark-based securitization will be analyzed, specifically focusing on Guess?, Dunkin' Donuts, and Domino's Pizza transactions.

2.3.1 Guess? Inc.

Company overview

Guess, Inc. is a global lifestyle brand that designs, markets, distributes and licenses a wide range of apparel and accessories for men, women and children. The company's products are marketed under various trademarks, including *GUESS*, *GUESS*?, *GUESS U.S.A.*, *GUESS Jeans*, *MARCIANO*, *G by Guess*, *GUESS by MARCIANO* and *Gc*. The company offers a comprehensive collection of clothing, including jeans, pants, overalls, skirts, dresses, shorts, blouses, shirts, jackets, knitwear and intimate apparel. Additionally, Guess grants licenses to manufacture and distribute complementary products such as eyewear, watches, handbags, footwear, kids' and infants' apparel, leather apparel, swimwear, fragrance, jewelry, and other fashion accessories.

Founded in 1981 by the Marciano brothers, Georges, Maurice, Armand and Paul, the company initially focused on selling jeans with a distinctive, light, form-fitting denim style and ankle zippers. The company soon expanded to offer licensed products, including watches, eyewear and fragrances. In 1985, Guess introduced iconic black-and-white advertising campaigns that won several design awards. However, creative differences arose among the brothers, leading to Georges' departure in 1993. To finance the acquisition of Georges' stake in the company, amounting to \$214.2 million, the remaining brothers took Guess public in 1996. In the late 1990s, the company faced declining sales and reduced its expansion plans to focus on improving investment returns.

n the early 2000s, Guess revitalized its business by expanding its accessories department, redesigning stores, introducing a lower-priced outlet collection, and launching the upscale female Marciano brand. The company also continued to invest in its Guess Kids line, expanding its distribution through factory retail stores. Throughout its history, the Marciano brothers have remained at the head of Guess, with Maurice overseeing design and sales growth and Paul managing the brand's image and advertising. In 2015, Victor Herrero took over as CEO, followed by Carlos Alberini in 2019.

As of 2024, Guess is a globally recognized billion-dollar retailer known for its quality, innovative marketing and trendsetting designs. While jeans remain the core of the brand, Guess has diversified its offerings to include a wide range of casual apparel and accessories in numerous countries worldwide, including North and South America, Europe, Asia, Africa and Australia.²⁶

²⁶https://www.fundinguniverse.com/company-histories/guess-inc-history/

Guess? Royalty Finance LLC (2003)

An important milestone in trademark securitization was reached in 2003 with the closing of the Guess? Royalty Finance LLC transaction. This deal, widely recognized as the most important and frequently cited example of pure trademark securitization, involved the securitization of cash flows derived from various licensing agreements associated with Guess? trademark.

The transaction was structured as the issuance of \$75 million in notes, secured by royalties payable under 14 of the 21 existing license agreements at the time entered into by Guess?. These agreements covered the manufacturing, distribution, sale of apparel, eyewear, jewelry, footwear and other fashion items. The underlying licenses had varying terms, ranging from 3 to 10 years and granted exclusive, non-transferable rights to licensees to use specific Guess? trademarks on designated apparel and accessory products. Projected annual royalties were estimated to be \$22 million and \$23 million. Licensees were obligated to pay royalties based on the higher of either a percentage of annual sales or a predetermined minimum annual fee. The notes were structured with a legal final maturity of 8 years. Proceeds from the securitization were used by Guess? for corporate purposes, particularly to pay down existing higher-cost debt.²⁷

Despite Guess? Inc.'s below investment-grade credit rating at the time, the issued notes received investment-grade ratings of **BBB** from Standard & Poor's and **Baa2** from Moody's. These ratings were achieved through a complex legal structure designed to isolate the securitized assets from potential bankruptcy risks. To accomplish this, Guess? Inc. transferred its key trademarks, license agreements, goodwill and related receivables to *IP Holder L.P.*, a bankruptcy-remote special purpose vehicle, in a true sale transaction. Additionally, Guess Licensing, a subsidiary of Guess? Inc., also transferred its licenses to IP Holder L.P. in a true sale.²⁸ IP Holder L.P., owned by two bankruptcy-remote SPVs controlled by Guess? Inc. and Guess Licensing, then contributed the receivables generated by the licensed agreements to **Guess? Royalty Finance LLC**, the issuer of the notes. To further enhance the security of the notes, IP Holder L.P. provided a guarantee of the principal payment at maturity, secured by a first-priority lien on the underlying trademarks and license agreements.

The rating agencies considered several factors in assigning the rating:

• Conservative Cash Flow Assumptions: cash flows were stressed by reducing

²⁷E. Madden, S. Rungpry, Securitization moves up the agenda, p. 50. [22]

²⁸https://investors.guess.com/news-releases/news-release-details/guess-incannounces-75000000-securitization-transaction

them to the minimum contractual amounts.

- Non-Renewal Assumption: the rating agencies assumed that license agreements would not be renewed upon expiration.
- Increased Overcollateralization: additional measures were taken to ensure that the value of the collateral exceeded the outstanding debt.

Guess? Inc. initially served as the servicer of the notes. However, in the event of Guess? Inc.'s inability to continue this role due to insolvency or bankruptcy, *Jassin-O'Rourke Group LLC* was designated as the back-up servicer.

Additional measures are provided: these included triggers to seize cash flows if debt service coverage ratios fell below historical and projected thresholds, a reserve fund sufficient to cover one year's interest payments, and the appointment of a back-up manager to ensure business continuity in the event of Guess's bankruptcy or insolvency.

A key challenge in the transaction was addressing the *core asset* issue. Since Guess?'s licensing operations constituted 5% of its revenue in 2001, there was a concern that the SPV holding the trademarks and licenses could be consolidated with the parent company in a bankruptcy scenario, even if a non-consolidation opinion was obtained. To mitigate this risk, the transaction structure was designed to separate the noteholders' claims from the ownership of the trademarks and licenses. The noteholders did not receive direct rights to these assets. Instead, IP Holder L.P. re-licensed the trademarks back to Guess? to allow the continuation of licensing activities. The sole collateral for the notes were the cash receivables generated by the licensed agreements. The trademarks and licenses served as collateral only for IP Holder L.P.'s guarantee of the principal payment at maturity. S&P considered that the "core asset" risk at maturity was not an additional risk to the transaction because it had already been taken into account in the credit analysis. In addition, Guess?'s established reputation and other licensing activities supported its ability to service debt.²⁹

The Guess? securitization introduces a more complex structure compared to the case studies previously examined, employing multiple special-purpose vehicle (SPVs) in different phases.

²⁹R. Borod, An Update on Intellectual Property Securitization, p. 70-71. [3]

The diagram below (2.3) provides a visual representation of the securitization structure, highlighting the roles of each participating entity.



Figure 2.3: Guess ? Royalty Finance LLC Legal Structure

 $^{^1\}mathrm{True}$ sale transaction.

 $^{^{2}}$ Guarantees payment of principal on final legal maturity, secured by trademarks and licenses.

2.3.2 Dunkin' Donuts

Company overview

Founded in 1950 by Bill Rosenberg in Quincy, Massachusetts, **Dunkin' Donuts LLC** has grown into a global coffee and doughnut chain, with over 12,900 locations in 42 countries. The chain was acquired by Baskin-Robbins' holding company Allied Lyons in 1990; its acquisition of the Mister Donut chain and the conversion of that chain to Dunkin' Donuts facilitated the brand's growth in North America that year. Dunkin' and Baskin-Robbins eventually became subsidiaries of Dunkin' Brands, headquartered in Canton, Massachusetts, in 2004, until being purchased by Inspire Brands on December 15, 2020. As part of its rebranding efforts, Dunkin' began dropping "Donuts" from its name in 2019, emphasizing its shift towards a broader beverage-focused menu. While the rebranding process is ongoing, many locations, particularly in the Northeast United States, are still affectionately known as *Dunkie's*.

The company's success is built upon a foundation of high-quality coffee, fresh doughnuts, and a diverse menu of breakfast and snack options. Dunkin' Donuts primarily operates on a franchise model, which has been instrumental in its rapid expansion. Franchisees pay an initial fee to secure the rights to operate a Dunkin' Donuts store and subsequently contribute to a national advertising fund. In return, they receive the benefit of the Dunkin' Donuts brand, operational systems, and ongoing support.

Beyond franchise fees, Dunkin' Donuts generates revenue from several sources. A significant portion of revenue comes from the sale of products directly to consumers, including coffee, doughnuts, bagels, breakfast sandwiches, and other food items. Additionally, franchisees pay ongoing royalties based on a percentage of their sales. Dunkin' Donuts also licenses its brand for merchandise, such as apparel and accessories, and earns royalties from these sales. The company's menu offers a diverse range of products to cater to various tastes and dietary needs, including a variety of beverages.³⁰

Dunkin' Donuts success can be attributed to several factors: a strong brand, a vast network of stores, a diverse product offering, digital innovation and an efficient franchise model. The company's commitment to quality, convenience and customer satisfaction has solidified its position as a global leader in the coffee and doughnut industry. As of 2018, Dunkin' Brands reported revenue of \$1.32 billion

³⁰https://businessmodelanalyst.com/it/dunkin-donuts-business-model/?srsltid= AfmBOorbXr3ok4ctKfCSd9giwgiPAdnGn3TNYWxiTQ_3UfEIfjZyXDKw

and an EBITDA of \$452.9 million.³¹

DB Master Finance LLC (2006)

One of the largest trademark securitization transaction is the DB Master Finance \$1.7 billion financing of intellectual property and leases generated by the fast-foods brands owned by Dunkin' Brands Inc, which closed in May 2006. This transaction was undertaken to help repay a \$1.5 billion debt incurred following a \$2.4 billion leveraged buyout of the company by a consortium of three private equity firms: the *Carlyle Group*, *Thomas H Lee Partners* and *Bain Capital*.³²

While the transaction didn't solely involve the securitization of trademark license receivables, it was primarily driven by the strength of the Dunkin' Donuts and Baskin-Robbins brands. Dunkin' Brands, overseeing more than 12,000 Dunkin' Donuts, Togo's and Baskin-Robbins franchises globally, reportedly generates over \$275 million annually from franchising and advertising royalties. The transaction involved issuing notes to be repaid primarily through franchise royalty payments from Dunkin' Donuts, Baskin-Robbins, and Togo's Eateries franchisees, rent from facilities leased to franchisees, and licensing fees from third-party use of Baskin-Robbins intellectual property for ice cream production and sales. Thus, trademark receivables constituted a substantial portion of the deal.

The transaction was structured to transfer various collateral assets, including existing and future franchise agreements, intellectual property assets and real estate assets leased to franchisees, from Dunkin' Brands Inc. and Baskin-Robbins International LLC to a wholly-owned, bankruptcy-remote **DB Master Finance LLC** (SPV) and other related special purpose entities (SPEs).

The transaction was secured by substantially all revenue-generating assets transferred to the SPV, including equity in the SPE subsidiaries. To allow Dunkin' Brands to continue franchise operations and ensure the issuer's debt was serviced by royalties and other receivables, a master servicing agreement was established. A back-up manager was also appointed to maintain franchise operations and cash flows in the event of parent firm's bankruptcy or insolvency. DB Master Finance LLC acts as the master issuer and the securities achieved an **AAA** rating, partly

³¹https://www.forbes.com/sites/greatspeculations/2019/04/10/how-has-dunkinbrands-revenue-performed-and-what-is-its-potential/#25327a9b3d4a

³²https://www.euromoney.com/article/b1321yy8ct71yg/dunkin-brands-sets-newmark-for-buyout-securitization-largest-us-ipo-of-the-year-ferrovial-buysbaa

due to an insurance guarantee provided by Ambac Assurance Corp.³³

Given the success of its first securitization, Dunkin' Brands returned to the securitization market in 2015 to refinance its senior secured credit facility. The securitization trust, known as DB Master Finance (Series 2015-1), was backed by proceeds from the company's franchises, encompassing over 18,600 restaurants in 56 countries. The trust issued \$2.4 billion in senior fixed-rate term notes and \$100 million in variable funding notes. Proceeds were used to repay Dunkin's \$1.8 billion senior secured term loan maturing in 2021 and a \$100 million senior secured revolving credit facility maturing in 2019. The remaining proceeds were allocated to general corporate purposes, including stock repurchases.³⁴

This transaction represents the first example of securitization of franchise royalties, intellectual property, leasing and other licensing credits bundled together. Both this and the following case study can be categorized as **whole-business securitization (WBS)** because the securities are backed by a pool of the entire business's cash-generating assets. This means that the full range of operating revenues generated by the business, including future, contingent and unpredictable income is considered, in addition to cash flows from receivables or debts. Further details are provided in paragraph paragraph 2.4.

³³E. Madden, S. Rungpry, Securitization moves up the agenda, p. 48. [22]

³⁴https://asreport.americanbanker.com/news/dunkin-brands-returns-tosecuritization-market

2.3.3 Domino's Pizza

Company overview

Domino's Pizza Inc. - commonly known as Domino's - is the world's largest pizza company based on global retail sales, reaching over \$16.1 billion in 2020. Founded in 1960 by brother Tom and Jim Monaghan in Ypsilanti, Michigan, the Domino's system operates through a network of 17,644 locations across more than 90 markets worldwide as of January 3, 2021.

Beyond its delivery and carry-out focused stores, Domino's maintains a robust infrastructure. This includes 21 regional dough manufacturing and supply-chain centers, one equipment and supply facility, two thin crust manufacturing centers, and one vegetable processing center within the United States. In Canada, they operate five dough manufacturing and supply-chain centers. Headquartered in Ann Arbor, Michigan, Domino's operates within the quick-service restaurant industry. The company differentiates itself through a strategic focus on delivery and carryout, utilizing a store design that prioritizes these services. This approach allows the company to offer price-competitive menus while minimizing the need for extensive dine-in areas and associated costs for facilities and staffing.

Domino's Pizza restaurant business generates cash flows primarily from two sources: franchise-related revenues, including royalties and franchise fees from both domestic and international franchised restaurants, and distributor profits. As of the end of fiscal year 2020, 97.9% of Domino's restaurants were franchised, encompassing all 11,289 of its international locations.

Each franchised location operates under a franchise agreement. This typically requires an initial franchise fee payment to Domino's, unless waived, along with an ongoing royalty fee. The latter is generally 5.5% for US locations and approximately 2.9% for international locations. Systemwide store count growth has been robust, exhibiting a *compound annual growth rate* (*CAGR*) of 5.6% for net store openings since 2007. This growth has accelerated in recent years, driven by the company's strategic focus on expanding into international markets by leveraging existing franchisees seeking to grow. From 2016 to 2020, Domino's opened 5,837 new stores while closing only 723, with 80% of these openings occurring internationally.

In 2020, 323 international locations permanently closed, reflecting the impact of the COVID-19 pandemic. During the second quarter of 2020, Domino's international franchise revenues were significantly more negatively impacted than those in the U.S. This was primarily due to more severe temporary store closures in certain international markets, along with changes in operating procedures and reduced store hours. As restrictions eased, the negative impact diminished with the reopening and resumption of normal store hours at a majority of the company's international franchised stores during the third and fourth quarters. Despite the pandemic's challenges, Domino's achieved 395 net international store openings in addition to 229 net U.S. store openings in 2021. Furthermore, increasing competition from local pizza chains and restaurants utilizing food delivery platforms such as *Glovo*, *JustEat* and *Deliveroo*, intensified the pressure to deliver high-quality products, particularly in markets like Italy. As a result, Domino's closed all its Italian stores in 2022.

As of 2024, Domino's Pizza's revenues reached \$4.5 billion, with total assets valued at approximately \$1.7 billion and reporting profits of \$540.2 million in 2024.

Domino's Pizza Master Issuer LLC (2007)

In April 2007, Domino's successfully completed a significant recapitalization through the securitization of its intellectual property. This had a positive impact on the company's stock price, driving a 12.8% increase to \$32.38, marking a new high for the company. This marked the first time Domino's had undertaken a securitization: it is a restaurant franchise royalty deal capitalizing on the company's strong cash flow characteristics.

The company issued five-year, interest-only securities with two optional one-year extension periods. This financing structure offers Domino's a lower cost of capital compared to its previous bank/bond financing arrangement, featuring lower interest rates and fewer restrictive covenants. A key element involved the establishment of a special-purpose vehicle named **Domino's Pizza Master Issuer LLC** (**DPMI**). This SPV facilitated the transfer of ownership of securitized assets to the noteholders. It issued notes secured by the company's revenue-generating assets, encompassing domestic royalties, most international income, product distribution agreements - including supply chain EBITDA - and licensing agreements for its intellectual property.

Other key features of the transaction include:

- Fixed interest rate with no amortization for 5 years.
- Two optional one-year extension period.
- Senior debt is wrapped with insurance.

- Debt service coverage ratio (DSCR) is the sole financial covenant, calculated as collections divided by senior interest expense.
- Normalized capital expenditure (CapEx) is projected to range between \$20 million and \$30 million annually to ensure that the competitive position of the business remains at least as good as at closing.
- Collections cannot be precisely determined using publicly disclosed information but most closely correlate with EBITDA.
- A significant decline in EBITDA, estimated between \$65 million and \$75 million annually, would be necessary to trigger the first covenant violation. Different triggers provided different percentage of waterfall payment trapped.

Domino's securitized debt consisted of fixed-rate senior and subordinated notes, as well as variable funding senior notes. The transaction offered two tranches: A-2 class and M-1 notes. The former totaled \$1.6 billion, insured by *MBIA* and *Ambac Assurance Corp.* with a 75/25 split. Moody's and Standard & Poor's assigned **AAA** ratings to these notes. M-1 notes totaled \$100 million, rated **BB** by S&P. The A-1 class was also included in the transaction but not offered to investors. All classes have a five-year interest-only payment period with two one-year extension options. If Domino's does not exercise either extension option, the securitized debt will become subject to principal amortization. Importantly, the securitization does not restrict the company from incurring additional debt.

The company anticipates that the senior notes will accrue interest at a fixed rate of 5.261% per annum, while the subordinated notes will accrue interest at a fixed rate of 7.629%. Failure to repay or refinance the debt may result in an increased interest rate. Domino's asset securitization has successfully enabled the company to raise substantial amounts of investment-grade debt. The cost of this debt was significantly lower than alternative financing options available at the time. This suggests that noteholders more effectively priced Domino's intangible assets, leading to a reduction in the company's overall cost of debt. However, achieving this outcome necessitated a true asset sale by DPMI, transferring residual control rights to the securitized assets and Domino's core business, the insolvency of Domino's would have minimal impact on the operations of these assets. The securitized assets are managed in accordance with the control and monitoring framework outlined in the transaction documents. This framework incorporates structural enhancements such as operational covenants, incentives, and specialized expertise to ensure the

efficient and responsible management of the securitized assets.

terms of its securitized debt financing include the following:

Covenants typically include restrictive terms, and non-compliance with any of these terms can trigger a default event, potentially having a negative impact on the company's business operations. A key characteristic of IP securitization is the inclusion of operational constraints that may limit a company's ability to incur additional debt, pay dividends, or make investments. Failure to comply with these covenants can also result in the acceleration of the repayment of all outstanding debt. Domino's SPV issued and guaranteed senior and subordinated fixed-rate notes and variable funding senior revolving notes, all subject to a number of covenants. The

- Financial covenants: the most significant is a debt service coverage ratio. The company is also required to maintain specific financial ratios at the end of each fiscal quarter.
- Operational Covenants: securitization significantly increases a company's debt burden. When combined with the requirement to allocate a substantial portion of operating cash flow towards debt service, concerns may arise regarding the company's ability to repay debt and effectively manage its business operations. To address these concerns, IP securitization typically includes a significant number of operational covenants, limiting the company's ability to alter its core business, sell assets, make loans or investments, engage M&A, incur in additional debt and liens on its assets, declare dividends or redeem or repurchase its own stock.

These operational covenants are designed to protect the interests of bondholders by ensuring continued financial stability and operational integrity of the company. Furthermore, certain scenarios may trigger the right of a majority of the outstanding fixed-rate noteholders or the insurers to assume control of substantially all of Domino's securitized assets. These scenarios include: insolvency of the parent company, potentially resulting in the immediate due and payable status of all unpaid amounts under the fixed and variable-rate notes; default under the securitized debt and the company's inability to fulfill its payment obligations; insurance companies' default.

By leveraging its securitized debt, Domino's was able to invest in the Domino's Pizza brand and its stores, repurchase shares of its common stock, and distribute significant dividends to shareholders. Furthermore, the proceeds from the issuance were utilized to refinance existing debt. The transition to an asset-backed loan with a maximum limit of \$1.85 billion necessitated certain adjustments to the company's

capital structure. Initially, Domino's secured a bridge loan of \$1.35 billion. These funds were then utilized to repurchase approximately 22% of its outstanding common stock at a price ranging from \$27 to \$30 per share. Subsequently, the bridge loan was repaid using the proceeds generated from the securitization. In addition to the stock repurchase, Domino's repaid approximately \$274 million of senior subordinated notes. The company also actively sought to improve the terms of its borrowing agreements by repurchasing and repaying older, existing debt.³⁵

This recapitalization strategy provided Domino's with a more efficient and flexible funding source, enabling the company to optimize its capital structure and support future growth initiatives.

Domino's Pizza Master Issuer LLC (Series 2021-1)

Following the success of its initial intellectual property securitization, Domino's Pizza undertook another, more recent transaction in 2021, named **Domino's Pizza Master Issuer LLC's series 2021-1**. The issuance is a \$1.7 billion corporate securitization of Domino's Pizza Inc.'s business. In this transaction, three classes of notes were created: A1, A2-I, and A2-II. All have a legal maturity of 30 years but different anticipated maturities: April 2026 for A1, October 2028 for A2-I, and April 2031 for A2-II. In terms of monetary issuance, A2-I and A2-II have a total value of \in 750 million each, while class A1 has a value of \notin 200 million. Payments are made quarterly.

The company planned to utilize excess proceeds, following the deduction of an estimated \$15 million in transaction fees and expenses, to fully prepay the outstanding Series 2017-1 Class A-2-I and A-2-II notes - approximately \$291 million and \$582 million, respectively. The remaining funds will be allocated for general corporate purposes, which may encompass capital returns to shareholders, other comparable distributions and/or stock repurchases. Assuming a complete drawdown on the Series 2021-1 Class A-1 variable-funding notes, the total note issuance will yield a leverage ratio of 6.1x based on total debt divided by adjusted EBITDA. If an additional \$350 million issuance capacity for the aggregate A-2 classes is utilized, the leverage ratio would increase to 6.5x. Debt repayment is supported by royalty cash flows, along with other franchisee payments, license fees and profits derived from distribution agreements generated by the 17,644 store system as of January

³⁵T. Nisar, Intellectual Property Securitization and Growth Capital in Retail Franchising, p. 398-402. [26]

3, 2021.

Key credit features of the transaction include a long operating history spanning 60 years. The Domino's business model, characterized by a high degree of franchising, contributes to a less volatile cash flow stream. Stable historical systemwide sales, supported by a compound average growth rate (CAGR) of 10.0% since 2009, further enhance the credit profile. Consistent growth in store count and a stable average unit volume have driven steady increases in royalty payments. Distribution arrangements not only enhance franchisee profitability but also provide an additional cash flow source for the transaction. The domestic franchise base is diverse, with no single franchise operating more than approximately 2.8% of total domestic units, which account for 2.9% of domestic sales. However, international operations revenue is not hedged for foreign exchange fluctuations, leaving cash flows vulnerable to potential swings in exchange rates. Additionally, there is a somewhat high concentration among international franchisees, with the top international master franchise accounting for approximately 25.0% of the total international store count. Notably, 2020 witnessed strong performance with an 11.5% increase in U.S. same-store sales and a 4.4% increase in international samestore sales. The company also experienced robust store growth, adding 624 net new stores, including 229 net U.S. store openings and 395 net international store openings, with more than half of these openings occurring in the fourth quarter of 2020.

Standard & Poor's (S&P) was the credit rating agency assigned to rate these notes and has assigned a preliminary rating of **BBB**+ to all of them³⁶, based on a range of factors:

- Strong Brand Equity: Domino's has a powerful brand with a high likelihood of survival in the event of a Domino's bankruptcy. This strong brand position enables the continued generation of substantial cash flows from business operations, provided adequate servicing is maintained.
- Managerial Replaceability: the manager's role primarily encompasses sales, general, and administrative (SG&A) functions. This limited scope enhances the probability of successful managerial replacement should the need arise. Furthermore, the transaction includes a contingency plan with FTI Consulting Inc. as the designated backup manager. FTI Consulting has conducted

³⁶The securities were definitively valued on April 16, 2021. Their initial BBB+ rating was confirmed, with class A-1 valued at \$200 million, A-2-I at \$850 million, and A-2-II at \$1 billion. (https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/2630326)

a thorough review of the business's cost structure in relation to the management fee and deems it sufficient to support a potential managerial transition.

- Legal Asset Isolation: a crucial aspect of the transaction is the legal isolation of substantially all cash-generating assets from the manager. These assets have been transferred through a true sale to the securitization issuer and guarantors, entities that are bankruptcy-remote. This legal structure mitigates the risk of disruption to cash flows to the securitization in the event of a manager's bankruptcy. Legal opinions pertaining to true sale and non-consolidation have been, or will be, obtained prior to the transaction's closing.
- Decoupled Asset and Manager Performance: the franchised restaurant system inherent in the Domino's business model fosters a degree of independence for individual franchisees, operating largely autonomously from the manager (except for SG&A functions). This characteristic contributes to the continued generation of cash flow even in the event of a manager's bankruptcy.
- Robust Cash Flow Coverage: considering the strength of the Domino's brand, the replaceable nature of the manager, and the legal isolation of assets, S&P has projected long-term cash flows for the business. These projections incorporate conservative assumptions regarding potential asset deterioration under adverse economic conditions. Despite these conservative assumptions, the analysis indicates that the business will generate sufficient cash flows to fulfill all debt service obligations for the rated notes.
- Adequate Liquidity: a robust liquidity mechanism is in place, comprising a reserve account. This reserve account will either be funded with three months of interest expenses or backed by an eligible letter of credit, ensuring sufficient liquidity to meet financial obligations.

The notes will be secured by a comprehensive security interest encompassing substantially all of the assets of the co-issuers and guarantors. These assets include, but are not limited to, franchise agreements - both domestic and international, Domino's intellectual property, IP license agreements, license agreements with third parties, distribution agreements, domestic distribution assets, transaction accounts and an equity interest in the securitization entities.

Furthermore, S&P conducted a thorough sensitivity analysis to assess the transaction's resilience under various stress scenarios. The first sensitivity run focused on a stress test of the management fee. S&P determined that even with a substantial increase in the management fee, up to 430.0% resulting in an appropriate 47.0% reduction in net securitized cash flows compared to the base case - the transaction would still maintain the capacity to timely pay interest and repay principal in full by the legal final maturity date. This stress test reflects S&P's assessment of a potential bankruptcy scenario for Domino's, considering the possibility of management fee renegotiation despite being outlined in the transaction documents.

The second sensitivity run, an event-driven stress test, aimed to determine the maximum cash flow haircut that the transaction could withstand while still meeting its debt service obligations. The analysis revealed that the transaction can withstand a cash flow haircut of approximately 51.0% after fees while ensuring timely interest payments and full principal repayment by the legal final maturity date. This stress test considered various event risks, including potential royalty losses from the top three geographies by store count (Texas, California, and Florida) and the impact of bankruptcies of the largest international master franchisee and the top 10 domestic franchisees on systemwide sales. Even under these adverse scenarios, the analysis demonstrated the transaction's capacity to meet its debt service obligations.

To further enhance credit protection, the transaction incorporates several triggers and credit enhancements. Anticipated amortization, coupled with the manager termination trigger, is designed to be activated if the DSCR falls below 1.20x. A more stringent event-of-default trigger is also included, requiring manager termination if DSCR falls below 1.10x. The table below 2.2 provides an overview of the participants involved in the transaction.

Arranger	Guggenheim Securities LLC
Master Issuer	Domino's Pizza Master Issuer LLC
Additional co-issuers	Domino's IP Holder LLC, Domino's Pizza Distribution LLC,
	Domino's SPV Canadian Holding Co. Inc
	Domino's Pizza Franchising LLC, Domino's Pizza International Franchising Inc,
Guarantors	Domino's EQ LLC, Domino's RE LLC, Domino's Pizza Canadian Distribution ULC,
	Domino's SPV Guarantor LLC
Trustee	Citibank N.A.
Servicer	Midland Loan Services
Manager	Domino's Pizza LLC
Back-up Manager	FTI Consulting Inc.

Table 2.2: Domino's transaction participants

To have an idea of Domino's trademark securitization rating quality, the following table 2.3 shows several similar transaction that occurred between 2015 and 2021. The table highlights that the Domino's transaction achieved a substantially higher rating compared to its peers.

Brands	Series	S&P Rating	Store Count	AUV ³⁷	Franchised (%)	Operating History	Industry Type	Leverage	Base-case DSCR
Domino's	2021	BBB+	17,644	0.9	98	Over 30 yrs	Quick-service Restaurant	6.4	1.8
SERVPRO	2021	BBB-	1,860	1.5	100	Over 30 yrs	Restoration Services	8.1	1.7
Sonic	2020	BBB	3,583	1.3	94	Over 30 yrs	Quick-service Restaurant	5.9	1.8
Jersey Mike's	2019	BBB	1,615	0.8	99	Over 30 yrs	Quick-service Restaurant	6.4	2.2
Wendy's	2019	BBB-	1,899	2.1	96	$29 {\rm \ yrs}$	Fitness	6.5	1.7
Dunkin' Brands	2019	BBB	20,912	0.8	100	Over 30 yrs	Quick-service Restaurant	6.2	1.6
Taco Bell	2018	BBB	6,505	1.6	91	Over 30 yrs	Quick-service Restaurant	5.3	1.6
Jimmy John's	2017	BBB	2.690	0.8	98	Over 30 yrs	Quick-service Restaurant	5.2	1.8
Arby's	2015	BBB-	3,335	1	72	Over 30 yrs	Quick-service Restaurant	5.3	1.6

Table 2.3: Peers Comparison and Key Metrics

2.4 Comparative Analysis

This section focuses on a comparative analysis of the intellectual property securitization cases presented in the previous subsections, examining both their similarities and their substantive differences. The focus is on assessing the monetary implications, contractual terms and guarantees underlying each transaction. This analysis aims to highlight how the inherent risks associated with IP securitization vary across different industries and how these risks are mitigated through tailored contractual structures.

While many of these case studies involve securitizing a specific subset of a company's assets, such as pure intellectual property and directly associated royalties, some, particularly those involving trademark securitization, are classified as *wholebusiness securitization (WBS)*. In these transaction, intellectual property and associated franchise royalty streams are combined, representing the company's core business. In particular, almost all (or all) the assets of the parent company are pledged as collateral.

Moreover, this section will further explore the concept of megafunds, especially in the context of patent securitization being the sector in which this type of company organization is most widely used.

By analyzing these case studies, we can gain a comprehensive understanding and further insights of the risk profiles of different intellectual property securitization structures and the factors that influence their success. Comparative tables 2.4 and 2.5 highlight the main risks associated with each transaction, along with the mitigation measures implemented and the outcomes achieved. In most instances, these transaction have proven successful, with success or failure determined by various criteria such as the maintenance of the transaction's credit rating over time, the realization of the transaction's objectives, the growth of capital raised over the years and other relevant factors.

Specifically, the comparative tables 2.4 and 2.5 for each transaction detail the type of IP securitized, the capital raised, the credit rating assigned by rating agencies, the relevant industry sector, the purposes/obhectives underlying the transaction, the main parties involved, the securities' guarantees, the primary risks and the outcomes achieved.

2.4. COMPARATIVE ANALYSIS

Transaction's Name	IP type	Amount	Rating	Industry	Purpose of the transaction
BioPharma Finance Trust (2000)	Patents	\$57.15 m senior debt \$22.0 m mezzanine \$22.16 m junior debt total amount \$115.0 m	A (S&P) senior securities rated A mezzanine rated AA-	Pharmaceutical	Finance further innovation Promote R&D Pay dividends to investors
Royalty Pharma Finance Trust (2003)	Patents (13 drugs)	\$225m raised	AAA (S&P) Aaa (Moody's)	Pharmaceutical	Promote R&D Repay most expensive debt
DW Funding LLC (2002) (DreamWorks)	Copyright	total of \$1.5 billion, of which: \$1 b film securitization + \$500 m revolving credit line	Investment-grade rating AAA- (insurance company)	Entertainment Movie	Finance the expansion of live-action film production Finance a new computer generated animation unit (CGI) Reduce borrowing costs
MVL Film Finance LLC (2006) (Marvel)	Copyright	\$525 m raised, 2 type of notes: Class A (senior) Class B (subordinated)	Aaa (Moody's)	Entertainment Movie	Funding the production of 10 feature films

Transaction's Name	Parties Involved	Guarantees	Main risks	Outcomes
BioPharma Finance Trust (2000)	Yale University (patent owner), Bristol-Myers Squibb (licensee), BioPharma Royalty Trust (SPV), Bankers Trust Corp. (trustee), West LB (lead arranger), Clifford Chance (law firm), Wilmington Trust Company (servicer), ZC Insurance Co. (insurance company)	Financial guarantee from ZC Insurance Co., a subsidiary of Center Re, on mezzanine securities + built-in trapping mechanism on cash flows	Reliance on a single patent/licence Over optimistic credit rating Absence of robust contingency plans	The transaction failed in November 2002, BioPharma entered into early amortization due to three consecutive covenants breaches
Royalty Pharma Finance Trust (2003)	Royalty Pharma Finance Trust (SPV) Credit Suisse First Boston (manager) Deutsche Bank Trust Co. America (trustee) MBIA Insurance Group (insurance company)	MBIA Insurance Group guaranteed timely interest payments and principal repayment at legal maturity	Diversification risk (13 drugs) Notes collateralized only by the royalty payment rights, not patents Licensor's bankruptcy	Progressive increase in capital raised after initial issuance and a longer lifespan than the previous transaction (In 2008, the transaction was still active totaling \$2.2 b raised and rated BBB-)
DW Funding LLC (2002) (DreamWorks)	DW Funding LLC (SPV) J.P. Morgan Chase & Co. (arranger) FleetBoston Financial Corp. (co-arranger) Ambac Assurance Corp. (insurance company)	Ambac Assurance provided a monoline insurance on securities issued + Requirement for DW to assign additional film to meet CF requirements (if necessary) + Credit Enhancements from TV fees	Revenue variability risk mitigated Use of anticipated earnings on future films	Reduction of borrowing costs due to the repayment of most expensive debt, 36 films included in the transaction with pre-determined TV licencing fees
MVL Film Finance LLC (2006) (Marvel)	MVL Film Finance LLC (SPV) Ambac Assurance Corp. (insurance company)	Ambac Assurance guaranteed interests and principal repayment in case of default + Completion guarantee on each film + Creation of a liquidity reserve (Borrower Blocked Account)	Inclusion of pre-sale distribution rights Uncertainty related to film performances based on Marvel's characters	Quite good box-office performances due to existing audience awareness of Marvel's characters + First time in which royalty streams associated with characters (and not films) are used as underlying assets

Table 2.4: Comparative Analysis, case studies 1 - 4

2.4. COMPARATIVE ANALYSIS

Transaction's Name	IP type	Amount	Rating	Industry	Purpose of the transaction
Guess? Royalty Finance LLC (2003)	Trademark	\$75m notes issued	BBB (S&P) Baa2 (Moody's)	Apparel Accessories	Corporate purposes Pay down most expensive debt
DB Master Finance LLC (2006)	Trademark	\$1.7 b senior notes	AAA (S&P) AAA (Moody's)	Quick-service restaurant	Repay \$1.4 b debt issued for the \$2.4 b LBO of the company
Domino's Pizza Master Issuer LLC (2007)	Trademark	\$1.6 b senior notes \$100 m subordinated notes	senior: AAA(S&P, Moody's) subordinated: BB (S&P)	Quick-service restaurant	Stock repurchases Distribute dividends Refinance existing debt Raise capital to invest
Domino's Pizza Master Issuer LLC (Series 2021-1)	Trademark	\$100 m A1 notes \$750 m A1-I notes \$750 m A1-II notes	BBB+ (S&P) for all the notes	Quick-service restaurant	Prepay Series 2017-1 \$291 m A2-I and \$582 m A2-II notes Distribute dividends Stock repurchases

Transaction's Name	Parties Involved	Guarantees	Main risks	Outcomes
Guess? Royalty Finance LLC (2003)	IP Holder L.P. (trademark owner) Guess? Royalty Finance LLC (SPV) Jassin-O'Rourke Group LLC (back-up servicer) Guess? Inc. (servicer) IP Holder L.P. (insurance company)	IP Holder L.P. guaranteed principal repayment at maturity + Overcollateralization + triggers (seizing CF, reserve fund and back-up manager)	Core asset issue CF assumption (to limit uncertainty a conservative approach has been adopted) Insolvency/bankruptcy scenario	Multiple SPV instead of one (first time), core asset risk considered as a "non additional" risk, quite good reputation in servicing debt by Guess?
DB Master Finance LLC (2006)	DB Master Finance LLC (SPV) Ambac Assurance Corp. (insurance company) Dunkin' Brands Inc (franchisor) Baskin-Robbins International LLC (franchisor)	Ambac Assurance Corp. provided guarantees on securities issued + Master servicing agreement + Back-up manager	Potential risk of significant disruption to franchise operations and CF due to parent company bankruptcy/insolvency	First whole-business securitization (WBS) as the full range of operating revenues were taken into consideration, notes were sold at a yield of 5.78 % (+15% than average)
Domino's Pizza Master Issuer LLC (2007)	Domino's Pizza Master Issuer LLC (SPV) MBIA (insurace company) Ambac Assurance Corp. (insurance company)	MBIA and Ambac insured senior securites with a 75/25 split + Financial and Operational covenants + Triggers (DSCR, insolvency/default)	Possible principal amortization + No strong restriction in incurring additional debt + Possible increase in the interest rate	12.8% increase in the company's stock price, enabled the company to raise investment-grade debt at lower cost, repurchased 22% of the outstanding stock, repaid \$274 m of senior subordinated notes
Domino's Pizza Master Issuer LLC (Series 2021-1)	Domino's Pizza Master Issuer LLC (SPV) Guggenheim Securities LLC (arranger) FTI Consulting Inc. (back-up manager) Midland Loan Services (servicer) Citibank N.A. (trustee) + Several co-issuers and guarantors	Stable international sales, CAGR and average unit volume + Back-up manager + Asset isolation, robust CF coverage and liquidity reserve + Triggers and Credit Enhancements (DSCR, anticipated amortization)	Parent company's bankrupcty + Possible anticipated amortization + Potential royalty losses in foreign countries + No foreign exchange hedging	Higher rating compared to similar transactions in that period, Series 2017-1 873m notes fully prepaid

Table 2.5: Comparative Analysis, case studies 5 - 8

Firstly, it's important to note that while the general structure of an intellectual property securitization is the one depicted in 1.1, specific structures can vary significantly base on the IP type and the corporate structure of the originator. In particular, if the originator is composed of multiple subsidiaries, it is likely that more than one special-purpose vehicle (SPV) will be required to transfer assets (in this case, intellectual property and associated royalties) from the various subsidiaries to the SPV in charge of issuing the securities.

Furthermore, these asset transfers must be classified as *true-sale* transactions, meaning that ownership is completely and permanently (or generally, until the legal maturity of the securities collateralized by those assets) transferred to the SPV. This legal protection shields the SPV from potential creditors of the originator and safeguards against bankruptcy and insolvency. It also provides an added layer of security for investors, influencing both the credit rating assigned to the securities and the contractual terms.

A notable example is the **Guess? Royalty Finance LLC**, case 2.3, where multiple SPV's were established to transfer intellectual property (trademark and related revenues streams) to a single SPV, which in turn issued securities backed by the transferred assets.

About the credit rating, all securities analyzed in these case studies have received investment-grade or above investment-grade ratings from credit rating agencies. Investment-grade securities are considered low-risk investments with a high probability of repayment, including interests. The specific rating threshold varies among agencies: for S & P Global Ratings and Fitch Ratings, it's **BBB-**, while for Moody's, it's **Baa3**. Securities rated below these thresholds are classified as high-yield, indicating an higher default risk and requiring investors to demand higher interest payments. Consequently, issuers aim for the highest possible rating to minimize overall interest costs on borrowed capital.

Interestingly, several case studies demonstrate that securitized securities can achieve higher ratings than the parent company's corporate bonds. For instance, in the **DB Master Finance LLC** case, the securities obtained a AAA rating from both S&P and Moody's, with a yield of 5.78%, despite the parent company (Dunkin' Brands) having a B- rating and its corporate bonds yielding 8.3%. This discrepancy can be partly attributed to the credit independence of the SPV from the parent company, as creditors of the latter cannot claim against the SPV in case of default. Additionally, other factors such as specific guarantees, triggers and credit enhancements contribute to the higher rating: there is no classic pattern, but some are more common than others. One of them is the presence of a guarantee on the payment of interest and principal at maturity, typically provided by an external insurance company independent of both the parent company and the SPV. The amount of the guarantee is determined on a case-by-case basis and contributes to enhancing the credit rating of the securities to investment-grade. These guarantees are often provided by specialized *monoline* insurance company.

By obtaining such insurance, issuers can improve the credit rating of the securities and mitigate the risk of future downgrades that could reduce investor appeal. This is achieved through a *credit wrap*, where the insurer provides protection against potential losses on the securities by agreeing to reimburse a portion of the interest or principal in the event of default.

In the case studies analyzed, several monoline insurers were involved, including *MBIA*, *Ambac Assurance Corp.*, *ZC Insurance Co.* and *IP Holder LP*. In most cases, these insurers were third-party entities independent of the parent company. However, in the **Guess?** case study, the SPV that received the IP (trademark and licenses), IP Holder LP, provided the insurance. In the first **Domino's Pizza** case, two insurers (MBIA and Ambac) jointly provided the guarantee, with a 75/25 split, meaning MBIA covered 75% of the risk and Ambac covered 25%.

Another common feature in these transaction, contributing to the enhanced credit rating of the securities, is the use of credit enhancement mechanisms. As discussed in paragraph 1.2.7, these mechanisms aim to protect investors from potential losses arising from the underlying assets (intellectual property and associated royalties). It's important to note that credit enhancements do not transform low-quality assets into high-quality investments but rather provide a buffer against potential losses. Combined with guarantees or insurance policies provided by insurance companies, credit enhancements play a crucial role in the transaction structure. They can be implemented as contractual clauses or covenants and often include what are known as *triggers*.

In the context of IP securitizations, two primary types of credit enhancement mechanisms can be identified:

Subordination Mechanisms: this involves assigning priority levels to different tranches of bonds, such that junior bonds act as a credit cushion for senior ones. In the event of losses, junior bonds absorbs losses first, preserving the value of the senior bonds. With reference to the case studies analyzed in this thesis, this is seen in transactions as BioPharma Finance Trust, MVL Film Finance LLC and Domino's Pizza Master Issuer LLC (2007), where multiple classes of bonds (class A and B or senior, mezzanine and

junior) were issued.

• Overcollateralization: this refers to a situation where the value of the underlying pool of assets exceeds the principal value of the issued securities. This excess collateral acts as a buffer, protecting investors from losses caused by underperforming assets. It allows issuers to maintain timely repayments to investors and support higher credit ratings, even if some underlying assets perform below expectations. The **Royalty Pharma Finance Trust** is an example, where the royalties from 13 drugs provided sufficient collateral to cover the issued securities, mitigating the risk associated with relying on a single drug. Moreover, overcollateralization can also occur "indirectly", especially in transactions backed by film copyrights or patents, where future revenue streams may exceed initial projections.

In addiction, trigger events are contractual clauses that allow for the early termination of a securitization transaction if certain predefined conditions are met. Upon a trigger event, the SPV may be required to redeem the securities, or the originator may need to repurchase the underlying assets. These events can be either economic or non-economic. Economic triggers are typically linked to the performance of the underlying assets, such as missed interest and/or principal payments or a failure to meet specific financial covenants. Non-economic triggers might include events like insolvency or illegal actions by the SPV. Common examples of trigger events include missed principal or interest payments, breaches of covenants, and the breach of certain financial ratios like the Debt Service Coverage Ratio (DSCR). Consequences of a trigger event can vary and may include changes in the payment waterfall, early amortization, or the involvement of a back-up servicer. For instance, in the Domino's Pizza Master Issuer LLC (Series 2021-1) case, an early amortization with manager termination was triggered if the DSCR fell below 1.20x. Similarly, in the **BioPharma Finance Trust** case, three consecutive covenant breaches triggered early amortization.

Another common credit enhancement mechanism is the creation of a reserve account. This account acts as a buffer to ensure timely payments and can be used to address specific conditions or events, coupled with specific requirements/behaviour for a specific actor involved in the transaction.

In conclusion, credit enhancement mechanisms play a pivotal role in mitigating risks and enhancing the creditworthiness of IP-backed securities. By carefully structuring these mechanisms, issuers can attract a wider range of investors and achieve more favorable financing terms. The specific industry sector of the company also significantly influences the credit rating of the securities and the likelihood of the underlying assets performing as expected. Different industries present distinct risk profiles. For instance, sectors such as pharmaceuticals, biotechnology and those heavily reliant on patents face risks associated with the uncertain future performance of these assets. Similarly, industries heavily reliant on copyrights, particularly in the entertainment sector, carry their own set of risks. Industries where trademarks are the primary asset, such as franchising, face risks related to the parent company's default or a decline in franchise performance.

To mitigate these industry-specific risks, strategies such as megafunds and wholebusiness securitization (WBS) have been employed. These approaches, which will be discussed in detail in subsequent sections.

2.4.1 Megafund

The megafund concept emerges as a possible solution in sectors characterized by high uncertainty and risk, such as the biopharmaceutical industry. In recent years, pharmaceutical innovation has become increasingly complex, expensive, and risky. Contributing factors include both scientific advancements and economic and public policy challenges. Firstly, developing new therapies now requires years of costly translational research with a high likelihood of failure. Moreover, declining drug spending, rising R&D costs, diminished venture capital support, and increased market volatility all contribute to a challenging environment. These factors have significantly increased the complexity of biomedical innovation, creating a mismatch between the needs of research and the expectations of traditional investors. Listed companies, driven by short-term pressures and the need to satisfy shareholders' demands for immediate returns, may prioritise projects with quick, though less transformative, results.

The megafund model offers a potential solution by:

- Building Diversified Portfolios: assembling large, diversified portfolios of biomedical projects across all stages of development, typically ranging from \$5 to \$30 billion.
- Leveraging Diverse Funding Sources: combining equity investments with securitized debt to access a broader pool of capital.

These two components are interdependent. Diversification within a single entity significantly reduces risk, allowing the megafund to issue debt and attract a broader

range of investors. On the other hand, access to substantial debt financing through the capital markets becomes possible due to the reduced risk profile offered by the diversified portfolio.³⁸

Securitization plays a crucial role in enabling megafunds to access a diverse pool of capital. By issuing various classes of bonds with different risk-reward profiles, megafunds can attract investors with varying investment horizons. These bonds are backed by a diversified portfolio of assets ranging from pre-clinical research to late-stage development, including royalties, licensing agreements and equity investments. Furthermore, issuing bonds with different maturities allows megafunds to align their funding streams with the long-term nature of biomedical research. This flexibility allows research programmes to progress at a scientifically optimal pace without being constrained by the pressure to meet short-term financial deadlines. While debt financing still provides necessary financial discipline, the ability to defer principal payments for extended periods allows megafunds to support long-term, high-risk, high-reward projects that are crucial for advancing biomedical innovation. This flexibility is particularly important in the biopharmaceutical sector, where premature termination of research due to financial constraints can result in significant economic losses and hinder the development of potentially life-saving therapies.

While major pharmaceutical companies play a crucial role in the later stages of drug development, their involvement in the riskier preclinical and early stages is often limited. With reference to the case studies analyzed above, this is evident in the case of **Royalty Pharma**. Despite its significant role in the industry, the company primarily focuses on investing in revenue-generating assets, such as royalties from FDA-approved products and late-stage clinical candidates (table 2.1, phase 3). This focus leaves a critical funding gap for preclinical and early-stage research, often referred to as the *Valley of Death*. Megafunds can bridge this gap by providing funding for high-risk, early-stage research. By investing in a diversified portfolio of assets across all stages of development, including preclinical and early-stage projects, megafunds can effectively de-risk their investments. This allows them to allocate capital more efficiently, prioritizing projects with the highest potential for success while allowing for the inevitable failures that are inherent in early-stage research.

Furthermore, the megafund structure enables rapid decision-making. Failing projects can be identified and discontinued quickly, allowing resources to be redirected to-

³⁸J. Fernandez, R. Stein, A. Lo, Commercializing biomedical research through securitization techniques, p. 964-966. [10]
wards more promising avenues. This agility is crucial in the dynamic and unpredictable world of biomedical research, where early termination of unproductive projects is often necessary to maximize the overall return on investment.

2.4.2 Whole-business securitization

Whole-business securitization (WBS) is a transaction structure involving the securitization of the entire company. It presents a potential solution for mitigating risks inherent in traditional securitization schemes. Primarily, WBS enhances value by minimizing bankruptcy costs. A collective of creditors provides the firm's entire debt financing and establishes an agreement regarding their respective rights and obligations should the company encounter financial distress. WBS offers a confluence of economic advantages, encompassing economies of scale and scope, alongside a reduction in various transaction costs.

While nominally a securitization, WBS actually constitutes a hybrid between a genuine securitization and a corporate credit instrument. Its reliance on the sustained cash-generating capacity of the operating company underscores its resemblance to corporate credit. Moreover, it bears some resemblance to future flows securitization, which, as the term implies, securitizes anticipated future cash flows. WBS contributes to a decrease in overall information costs for the firm's investors, coupled with a reduction in regulatory expenses due to more favorable regulatory treatment. However, changes in assets and cash flows require extensive and costly tailoring for each transaction. Furthermore, the company must meticulously monitor its performance, as the continued generation of cash flows is critical for the success of the structure.

Two primary benefits are associated with WBS: specialization benefits and capital market investor access. The former refers to the company's acquisition of expertise in acting as an active trustee, effectively learning to monitor and execute other relevant tasks cost-efficiently for groups of investors. The latter benefit emphasizes the likelihood of securing a substantial portion of financing through the transaction, given that WBS transactions are often of considerable size. The greater the proportion of financing a firm obtains from capital markets, the more significant the savings achieved through its capacity to access these markets.

Not all business types are suitable candidates for WBS. An ideal candidate exhibits characteristics such as stability, a long operational history, relatively predictable cash flows, and a management team whose contributions are not indispensable. Moreover, the company should not require frequent infusions of additional capital. It would be counterproductive to negotiate an intricate intercreditor agreement among the company's creditors only to subsequently seek new financing from entities not party to the agreement.³⁹

With reference to the case studies above, examples are **Dunkin' Donuts** and **Domino's Pizza**. In these cases, the franchisor's overall creditworthiness is irrelevant: the sole factor under consideration is the predictability of the royalty stream and/or other revenue streams. The rating assigned by a recognized rating agency to a securitization offering exceeds the rating assigned to a debt or equity offering by the franchisor itself. This discrepancy arises because the latter scenario necessitates an evaluation of the franchisor's overall creditworthiness, encompassing both operating and non-operating liabilities, as well as its vulnerability to bankruptcy. In particular, where the franchisor's revenue stream is deemed sufficiently reliable and predictable, bond insurers will offer comprehensive insurance coverage for both principal and interest on bonds offered to investors. This feature can quickly raise the rating of a securitisation debt offering to AAA, leading to a further reduction in the associated interest rate.

Generally, in a WBS multiple revenue streams are monetized, including:

- Construction, equipment, or FF&E (furniture, fixtures, and equipment) loan receivables from franchisees whose build-out costs are financed by the franchisor.
- For product-based franchisors, receivables generated from product sales to franchisees.
- Lease/sublease payments, applicable to franchisors that routinely lease the real estate upon which franchised units will be situated.
- In the guest lodging sector, management fees under management agreements, reservation fees and technology payments.

By diversifying the revenue streams included in the securitization structure, the overall risk profile is mitigated.

³⁹C. Hill, Whole Business Securitization in Emerging Markets, p. 521-528. [14]

Chapter 3

Economic valuation of intellectual property's methods

One of the main challenges in securitizing intellectual property is determining the economic value of the intellectual property itself that will serve as the underlying asset for the bonds created through the securitization process. IP, a subset of intangible assets, is distinguished by its legal creation: as such, it's legally protected and enforceable. It can be independently identified, transferred and possesses an economic life which is generally shorter than its legal life. However, this doesn't guarantee that IP always has economic value: for instance, a patent might exist legally but hold no economic value if it doesn't contribute to production or revenues.

From an economic perspective, intangible assets can differ from physical ones based on three key dimensions: *separability*, *specificity* and *uncertainty*.

Separability refers to an asset's ability to exist independently from its controlling entity. This allows its sale, transfer or licensing to third parties. Most physical assets are separable. IP exhibits a quite high degree of separability, making it relatively easy to sell or license. In contrast, core competencies developed within a company are often inseparable from the company itself, despite being intangible. Separability is crucial for determining whether an asset can be financed independently. It's a prerequisite for transferring the asset to alternative users. This allows investors to provide financing based on the asset's merit, without needing to scrutinize the company's overall operations. Consequently, separable intangibles can be used as collateral while non separable ones often require financing agreements that pledge the entire company, such as whole-business securitization (WBS, paragraph 2.4.2). Specificity, instead, refers to the extent to which an asset can generate economic benefits when transferred to alternative users. Since an asset's specificity influences its value to alternative users, it's crucial for determining the amount of financing a company can secure by pledging the assets independently. Similarly, an asset's specificity influences the amount of financing obtainable through direct pledging. Generic assets are more commonly pledged individually, while specialized assets have limited value and cannot secure significant financing when pledged alone. Consequently, they are often pledged as part of the overall business, even if they are theoretically separable.

Finally, intangibles exhibit two types of uncertainty: uncertainty regarding ownership and exclusivity and uncertainty regarding useful life. Some types of intangible assets can be used simultaneously by multiple parties, both within and outside the controlling entity. In particular, usage by external parties may be difficult to detect or prevent. Separability interacts with this aspect: separable assets can be identified and recorded more easily and registration reduces uncertainty regarding ownership. Certain types of intangible assets also face uncertainty regarding the duration of their useful life. For example, while IP assets are not subject to wear and tear, they can be replaced by others that perform the same function at lower costs or with higher quality: this is especially true for patents. This uncertainty implies that an asset's useful life might be significantly shorter than its legal life. Uncertainty regarding ownership and economic life can also influence the value that a potential investor assigns to the future economic benefits that an asset may generate. Valuing intangibles on a standalone basis often relies on estimating future benefits and uncertainty regarding these benefits can play a significant role in the valuation analysis.

Therefore, the value of intellectual property is derived from its ability to generate economic benefits and to provide a competitive advantage. While legal rights grant exclusivity, the economic value of IP lies in its ability to control usage and generate revenue. To have economic value, an IP asset must:

- Generate a measurable economic benefit for its owner or user.
- Enhance the value of other assets associated with it.

The value of an IP asset can be determined directly through its exploitation and licensing or indirectly by quantifying its strategic benefits, such as creating barriers to entry or offsetting supplier power. IP valuation is highly contextual, influenced by various factors including: the timing of the valuation, the availability and reliability of data, legal and regulatory frameworks and specific company circumstances.

There is no single, universally applicable method for valuing IP. However, valuation methods can be broadly classified into three main categories: *income-based*, *market-based* and *cost-based*. Method's choice depends on the specific characteristics of the IP asset and the purpose of the valuation. Each approach has its strengths and weaknesses, and the most appropriate method will vary from case to case.

3.1 Income-based method

The income approach is the most commonly used method for valuing intellectual property. This method estimates the present value of the future economic benefits that the IP asset is expected to generate, such as license revenues and incremental revenues. Key consideration for income-based valuation include:

- Remaining Useful Life (RUL): the RUL of the IP asset significantly impacts its value. Patents have a statutory life of 20 years, while copyrights can have much longer lifespans. Trademarks can also have a long lifespan, but this is highly dependent on factors such as brand strength and market dynamics. Generally, the more is the RUL the more is the IP's worth.
- Development Stage: for assets still under development, the probability of successful development, the development timeline, and the expected commercialization period must be carefully considered.
- Data Availability: accurate and reliable data on past performance and future market trends is crucial for accurate income projections.

However, this method also has limitations. Firstly, it relies heavily on forecasts of future revenues and expenses, which can be subject to significant uncertainty. Moreover, when intangibles are not separately identifiable, the focus shifts to estimating the enterprise value of the entire business. This is done through standard methods as discounted cash flows, multiples and comparables analyses and this may not accurately reflect the true value of the specific IP asset. Lastly, reliable data on comparable transactions or historical performance may be limited, making accurate income projections challenging. Therefore, an essential element of this method is the development of assumptions regarding the future application of the intangible, especially for assets that are currently non-income producing: for instance, this is the case of a patent for which there is no data yet regarding the revenues generated by its use.

The income-based method typically has four variations: *with-and-without*, *relief-from-royalty*, *excess earnings* and *greenfield*. Each of them is briefly described in the subsections below.

3.1.1 With-and-without method

The with-and-without method estimates the difference between the value of a business with the intangible asset of interest and the value of the business without it. This indirect approach determines the economic advantage - or premium price by comparing the performance of a company that possesses the intangible asset in question with that of a similar company lacking such an asset. From an economic standpoint, when applicable, this method is the preferred approach among income-based methods.

The with-and-without method computes the present value of the difference between the profit flows generated by the buyer when combining the intangible asset with complementary assets and the profit flows generated when using only the complementary assets. The valuation produced is equal to:

$$W^{(WaW)} = \frac{1}{r+\lambda} (\Pi^{(N)} - \Pi^{(0)}), \qquad (3.1)$$

where $\Pi^{(N)} - \Pi^{(0)}$ represents the incremental cash flows due to the combination between complementary assets and intangible asset $(\Pi^{(N)})$ and complementary assets alone $(\Pi^{(0)})$, λ represents the intangible's failure rate when operated by the buyer and r is the discount rate. One benefit of this method is its reduced input requirements: no further assumptions about royalty rates, rental rates or capital charges are necessary. However, in practice, implementing the with-and-without method can be challenging. For instance, estimating the cash flows $\Pi^{(0)}$ generated by complementary assets on a standalone basis can be difficult if they are typically used together with the intangible asset (or other similar assets).

3.1.2 Relief-from-royalty method

The relief-from-royalty method estimates the discounted value of the royalty payments a company would avoid by owning the intangible asset, rather than licensing it. This estimate depends on the royalty or license rate that the licensor would charge. This rate, denoted by γ , is expressed as a fraction of the buyer's EBITDA, conditional on the intangible asset not having reached the end of its useful life. The upper limit of the asset's value is the total value it can generate for the licensee: if the latter has some bargaining power, the relief-from-royalty method will yield a lower valuation than the with-and-without method. Therefore, this method tends to underestimates the intangible asset's true value.

The relief-from-royalty method computes the net present value of the savings the buyer achieves by owning the asset, compared to the hypothetical scenario where it licenses the intangible from the seller. Specifically, the valuation formula is:

$$W^{(RfR)} = \frac{\gamma}{r+\lambda} \Pi^{(N)}, \qquad (3.2)$$

where γ represents the royalty or licensing rate. In particular, this valuation equals the result obtained using the with-and-without method *if and only if*:

$$\gamma = \gamma^* = 1 - \frac{\Pi^{(0)}}{\Pi^{(N)}}.$$
(3.3)

A lower royalty rate implies smaller cost savings from asset ownership and, consequently, a lower valuation. The royalty rate in Eq. 3.3 has a direct interpretation: it suggests the buyer will return all incremental cash flows from the intangible to the seller as licensing fees. The cost saving equals the present value of these licensing fees which, in turn, equals the present value of the incremental cash flows the buyer generates from the intangible if licensing fees are determined by Eq. 3.3. In contrast, when licensing fees are higher, the relief-from-royalty method produces a lower valuation than the with-and-without method: this typically occurs when the buyer has some bargaining power over the seller. Thus, in general, the licensing fee should be no higher than γ^* , implying that the relief-from-royalty method provides an upper bound on the intangible asset's value.¹

¹N. Crouzet, Y. Ma, Financing and Valuation of Intangible Assets, p. 16-17. [5]

3.1.3 Excess earnings method

The excess earnings method is mainly employed to assess the worth of an asset that has a major or substantial role within a company. The key steps are:

- Forecasting the magnitude and timing of future revenues generated by the subject intangible asset, as well as any supporting assets.
- Estimating the amount and timing of expenditures necessary to produce the revenues derived from the intangible asset and its related contributory assets.
- Modify the expenses to remove those associated with the development of new intangible assets. Profit margins under the excess earnings method may exceeds those of the company as a whole, given that it excludes investments in new intangible assets.²

The excess earnings method determines the net present value of the incremental cash flows attributable to the IP being valued. It does this by calculating the present value of the projected cash flows the acquirer expects to generate with the IP and then subtracting a charge for the necessary complementary assets. Specifically, the valuation formula is:

$$W^{(EE)} = W^{WaW} + \frac{1}{r}(\Pi^{(0)} - RK), \qquad (3.4)$$

where R is the capital charge applied to the complementary assets and K is the replacement cost of the stock of complementary assets required to utilize the IP. A crucial point is the choice of the capital charge R. To ensure consistency with the with-and-without method, the capital charge should equal the buyer's average return on physical assets without the intangible capital (IP). This specific capital charge is calculated as:

$$R = R^* = \frac{\Pi^{(0)}}{K}.$$
(3.5)

Alternatively, if R is set equal to the buyer's cost of capital which is the discount rate plus suitable depreciation allowance $(R = r + \lambda)$, the resulting valuation will capture all rents generated by the buyer, including those they would have earned even without the specific IP in question. This is because the lower capital charge effectively attributes a larger portion of the overall profit to the IP, even if some of

²R. Moro Visconti, The Valuation of Intangible Assets: An Introduction, p. 29. [24]

that profit is driven by other factors (like the buyer's existing business operations or market position).

3.1.4 Greenfield method

The greenfield method estimates the value of a specific intangible asset by calculating the net present value of the cash flows a buyer could generate from a hypothetical "greenfield" business venture built solely around that intangible. This involves projecting future cash flows, assuming that all other necessary assets (tangible and intangible) must be acquired (built, purchased, or rented) from scratch. This approach is frequently used for *enabling* intangible assets, like franchise agreements which are essential for establishing a business. The core principle is to isolate the value attributable specifically to the target intangible, eliminating any contributions from pre-existing activities or operations.

Formally, the greenfield method is equivalent to the excess earnings method. The key distinction lies in how the cost of complementary assets is treated. In the greenfield method, this cost is represented by a rental rate, denoted with R^{G} , which replaces the capital charge R used in Eq. 3.4 and Eq. 3.5.

A critical consideration with this method and, by extension, the excess earnings method, is the potential for overvaluation. If the costs of non-intangible assets are calculated using internal user costs, rental rates or reproduction/purchase costs, these may be understated relative to the actual return the buyer could achieve with those assets independently. This discrepancy arises when the business can generate economic rents (e.g. due to market power in the output or input markets, or economies of scale). Therefore, both methods tend to overestimate the true value of the intangible asset.³

All four methods described above can be used to value intangible assets in general, not just intellectual property. However, valuing IP can be more complex due to several factors. These include the risk profile, which can vary widely depending on factors like the strength of protection, stage of development and market demand. Obtaining reliable data can also be challenging, especially for early-stage assets. The development stage itself plays a role, as IP still in development may be harder to value than mature, proven assets. Finally, the choice of the discount rate can significantly impact valuation and determining the appropriate rate for IP requires

³N. Crouzet, Y. Ma, Financing and Valuation of Intangible Assets, p. 2, 27. [5]

careful consideration. These factors can vary significantly from asset to asset and a thorough assessment of each is crucial for accurate valuations.

Specifically, the weighted average cost of capital (WACC) may not be suitable when the intangible asset in question exhibits a risk profile that differs significantly from the other assets and liabilities of the business or when there is an evidence which suggests an alternative and more appropriate discount rate. A portfolio of related IPs is unlikely to carry the same systematic risk as a company operating within the same industry. Intangible assets are often considered riskier, thus justifying a higher discount rate. This increased risk results from the fact that, in addition to systematic risk, they may also be exposed to idiosyncratic risk: it reflects the potential for intangible assets and by the acquirer, or even uncorrelated with broader market movements.

IP still under development requires specific attention. When the probability of failure is substantial, valuers should consider employing risk-adjusted scenarios or, if the discount rate is used to reflect development risk, the likelihood of success must still be estimated and explicitly integrated into that discount rate.

Assessing the investment risk associated with IP valuation involves considering several key components. These can be broadly categorized as follows:

- Inflation Risk (Purchasing Power Risk): inflation diminishes the real value of future cash flows. Investors must account for the potential erosion of purchasing power when projecting the returns from IP assets. This means that anticipated future income stream from the IP must be adjusted to reflect it present value, considering the expected rate of inflation.
- Interest Rate Risk (Opportunity Cost): investing in IP represents an opportunity cost. Investors forego potential returns from alternative instruments, such as bonds or government securities. Therefore, the expected return from IP investments must be competitive with, and ideally exceed, the returns available from these alternative investment options, reflecting the higher perceived risk associated with IP.
- Business Risk (Technological Obsolescence Risk): the economic benefits derived from IP are susceptible to disruption from emerging technologies. New, superior innovations can quickly render existing intellectual property obsolete, inducing investors to demand a rate of return that adequately compensates for the uncertainty surrounding the long-term viability and market dominance of the IP.

 Market Risk (Systematic Risk): market risk encompasses broader economical and political factors that can negatively impact investment returns because it cannot be diversified away. This can include macroeconomic factors such as inflation, fluctuations in global commodity prices, political instability and changes in government policies. ⁴

When considering a trademark, for instance, one must carefully evaluate the strength and scope of the legal rights protecting the brand, including the potential for challenges to its validity and the extent of its protection. A thorough analysis of the brand's historical financial performance, including revenue generation and market share, is crucial to understanding its stability and future potential. Furthermore, an assessment of current brand equity and its trajectory, alongside an examination of the brand's market position and the competitive landscape, provides valuable insights into its resilience and vulnerability to market dynamics.

For technological IP such as a patent, the risk assessment shifts to a different set of considerations. The strength and the extent of patent protection have a central role, necessitating an evaluation of the risks associated with challenges to the patent's validity and the potential for infringement by competitors. The risk of enforcing the patent, even after it has been granted, must also be taken into account, as its validity and scope can be contested: the commercial viability of the technology, including the potential for competitors to design around the patent and the risk of technological obsolescence, are critical factors in the risk assessment. Analyzing the historical earnings associated with the patented technology and identifying any trends provides valuable insights into its financial performance. Moreover, the stage of development of the underlying technology plays a significant role, with early-stage technologies inherently carrying greater risk than those that have been commercially proven.

Lastly, when dealing with artistic IP protected by copyright, the risk assessment focuses primarily on the strength of the legal rights safeguarding the artistic work, particularly the ability to control unauthorized use. The market strength of the artistic work itself, including its vulnerability to changing tastes and trends and the potential for obsolescence, is another key consideration. Information regarding advances on publishing contracts and arm's-length copyright licenses can provide valuable insights into the artistic work's market strength and risk profile.⁵

⁴R. Pandey, Intellectual Property Valuation: A Critical Aspect of IP Securitization, p. 4-5. [30]

⁵RICS, Valuation of intellectual property rights, p. 24-25. [13]

3.2 Market-based method

Market-based valuation method is based on the analysis of comparable IP transactions within the market. This approach is most effective when data on similar IP exchanges is accessible: the transaction price of comparable IP can then serve as a benchmark for the subject IP's value. However, a key challenge lies in establishing the parameters of comparability, as transaction details are often confidential. Market-based methods rely on historical transaction data of similar assets.

Furthermore, as Paragraph 110.4 of International Valuation Standards Council $(IVS\ 210)^{6}$ of 2022 notes, the diverse nature of intangibles, coupled with the fact that they rarely change hands independently, often hinders the discovery of market evidence for identical asset transactions.

This approach is generally preferred due to its inherent objectivity but the *unique*ness of many intangibles makes it difficult to identify truly comparable assets. Therefore, while uniqueness can be a strength, commanding a premium over other assets, it simultaneously complicates valuation due to the lack of comparable transactions. This complexity is further increased by the information asymmetry inherent in the secrecy surrounding intangible assets and, in addiction, the intangible's value can be highly dependent on its specific application and user.

Generally, the market approach should only be the primary valuation method for IPs if two criteria are met: (a) information on arm's length transactions involving identical or similar intangible assets near the valuation date is available and (b) there is enough information to allow the valuer to adjust for any significant differences between the subject intangible asset and those involved in the transactions. If any market data exists, it usually pertains to similar, but not identical, assets. Therefore, when price or valuation multiple is available, adjustment are often needed to account for differences between the subject asset and the assets used for comparison. Such adjustments may only be possible at a qualitative level, rather than quantitative. However, the need for significant qualitative adjustments may suggest that an alternative valuation approach would be more appropriate. The valuation of intellectual property generally involves a five-step process:

1. Market Analysis: investigate the relevant market to gather data on trans-

⁶International Valuation Standards, in particular IVS 210, issued by the International Valuation Standards Council, an independent, not-for-profit organization that produces and implements universally accepted standards for the valuation of assets. It is composed of five general standards, that set forth general requirements for valuations of all kind of assets and for any purpose, and specific asset standards, with specific requirements, which must be applied together with the general standards.

action, listings and purchase/sale offers for IP assets comparable to the IP being valued.

- 2. Due Diligence: validate the accuracy of the gathered data and ensure that market transactions reflect fair market value negotiated at arm's length.
- 3. Comparative Selection: identify appropriate comparison metrics (e.g., revenue multiples or price per unit) and conduct a comparative analysis for each metric.
- 4. Value Adjustment: compare benchmark IP asset transactions with the subject IP, utilizing relevant variables and factors. Adjust the prices of the benchmark transactions to reflect the characteristics of the subject IP, or exclude transactions deemed unsuitable for comparison.
- 5. Value Synthesis: combine the value indications derived from the benchmark transaction analysis into a single value or a range of potential values.

Types of variables and factors to be considered might be: timing, nature of the IP asset, duration, exclusivity, availability of substitutes, profitability, risks etc... Main market-based methods used to determine the fair value of IP assets are:

- Empirical Approach: this approach multiplies the income generated by the IP asset by a coefficient representing its strategic strength. This coefficient is influenced by factors such as market leadership, customer loyalty, competitive positioning, industry trends, marketing investments, global reach and legal protection.
- Differential Asset Valuation: this method assesses the value of incremental assets by using market surplus value indicators. These indicators compare the market value of a company's operations to its replacement cost. A ratio greater than one suggests the presence of unrecorded goodwill, potentially attributable to the (unaccounted for) value of intangible assets.
- Price-to-Book Ratio Analysis: this technique compares the stock market price of a publicly traded company (possessing a brand or other significant intangibles) to its book value of net assets. A ratio above one indicates surplus value, a portion of which can be attributed to intangible assets.⁷

⁷R. Moro Visconti, The Valuation of Intangible Assets: An Introduction, p. 30. [24]

This valuation method, focusing on market comparisons, is generally considered to be a more accurate reflection of current market sentiment and perceptions than an income-based approach.

When evaluating trademark, for instance, several comparability criteria should be taken into account. These include the brand's price positioning within the market, the strength of its brand equity and its stage of development, the brand's established market position and the level of advertising support it receives.

Instead, for technology IP, the relevant comparability criteria shift to encompass the specific purpose of the technology and its importance to overall product or process performance. The stage of development is also crucial, including whether *proof of concept (POC)* and, importantly, proof of economic viability have been established. The status of any patents related to the technology, whether granted or still pending application, along with the quality of the patent claims, are further key considerations. Lastly, proof of freedom to operate and the ease of detecting and enforcing infringements are also important factors.

Finally, when considering copyrights, the reputation of the work's creator is a primary factor, alongside with the specific type and genre of the artistic work itself. In addiction, the ability to effectively control unauthorized use of the artistic work is another essential element in its valuation.⁸

3.3 Cost-based method

Unlike tangible assets, whose costs are usually readily available or estimable upon acquisition, intangible asset costs are often hidden. This arises from the fact that many intangibles are not the outcome of discrete, easily isolated projects, but rather an integrated part of ongoing business operations. Furthermore, forecasting the economic benefits derived from intangible investments is typically challenging. The inherent risk associated with innovation means that numerous projects will be unsuccessful, yielding minimal or no return for the company.

The cost-based valuation method is based on determining the current cost to replicate the service capability of an asset. Applying this method to IPs, or intangibles in general, necessitates estimating the development costs of an equivalent intangible asset; however, accurately predicting these costs is frequently problematic. Unless these estimation challenges can be addressed, this method is quite impractical.

⁸RICS, Valuation of intellectual property rights, p. 26-27. [13]

Nevertheless, with these limitations clearly understood, cost data can still offer valuable insights for valuation purposes. The cost approach assumes that an intangible's value is equivalent to the sum of capitalized costs, whether already incurred during its creation or those projected for its reproduction (such as restoring rights or brand accreditation, generally represented by investments in advertising, promotion, and distribution networks). As stated in paragraph 70.1 of IVS 210, this approach values an intangible asset based on the replacement cost of a similar asset, or one offering comparable service potential or utility. The cost method may also be used when the intangible asset or IP in question has no identifiable income stream or when no other valuation method is applicable. Therefore, this approach is limited, by its failure to account for maintenance costs and the time value of money, and it is unsuitable for income-generating assets. A primary obstacle in its application is the difficulty in retrieving historical cost data, especially when costs have been incurred over multiple years and not capitalized.

The cost approach should only be employed when specific criteria are met. These include the feasibility of market participants recreating a comparable intangible asset, the absence of legal protections (like patents or trademarks) or other barriers to entry (such as trade secrets) that would prevent such recreation or profit generation and the possibility of recreating the asset quickly enough to dissuade market participants from paying a substantial premium for immediate use of original asset.

Two primary methods are used for cost-based valuation:

- 1. Reproduction Cost (or Historical Cost): it measures the actual costs incurred in creating the IP.
- 2. Replacement Cost: it estimates the cost of creating an equivalent asset. Due to the non-physical nature of most intangible assets, this method is the more frequently applied.

Reproduction cost involves constructing an exact replica of the subject IP. It represents the total cost, at current prices, of developing a precise duplicate, using the same or similar materials, standards, design, layout and quality as the original. This method does not account for advancements in technology, the potential for higher utility from alternative materials or other such factors.

Instead, the replacement cost approach assumes that a market participant would pay no more for the asset than the cost of replacing it with a substitute offering comparable utility or functionality. It represents the total cost, at current prices, of creating an asset with equal functionality or utility of the subject IP. However, this replacement IP may be superior to the original, incorporating modern methods, current standards, state-of-the-art design and layout, new technology and the highest achievable quality. If the replacement IP offers greater satisfaction, this must be considered when estimating obsolescence: the replacement cost is then adjusted by an obsolescence factor.⁹

A crucial requirement for both methods is that costs are determined as of the valuation date (whether current or another one), not based on historical expenditures. A combined approach may also be used, starting with the reproduction cost to calculate replacement one and then determining the IP's value. General formulas include:

An IP's deficiencies are considered curable when the projected economic benefit of enhancing or modifying it exceeds the current cost of materials, labor, and time required. Further:

Deficiencies are considered incurable when the current costs of enhancing or modifying the asset (in terms of materials, labor, and time) exceed the expected future economic benefits of improvement.

The reproduction cost method is typically employed in specific situations such as litigation, return on investment (ROI) calculations and tax reporting. Conversely, the replacement cost method finds application in scenarios like estimating a target price before IP asset purchase negotiations, calculating appropriate royalty rates, determining transfer prices and establishing the current market value of a consumer brand developed, for example, 20 years ago.

When the cost approach is deemed appropriate, several factors should be considered. These include the subject IP's stage of development and, if not yet commercialized, the remaining development stages and timeline; the complexity and novelty of the subject IP and the difficulty in creating a similar asset; the extent of obsolescence; the relevance of the historical development process to reproducing the IP or creating a replacement asset; and the estimated development time for an

⁹R. Moro Visconti, The Valuation of Intangible Assets: An Introduction, p. 28. [24]

alternative asset, its opportunity cost and the probability of success.¹⁰ The cost method is generally the least favoured valuation approach, often considered suitable only as a complement to the income method (unless the valuation is for accounting purposes). It is typically used when the IP being valued does not currently generate income.

¹⁰RICS, Valuation of intellectual property rights, p. 28. [13]

Chapter 4

Current regulations and standards in various parts of the world

In today's financial landscape, the securitization of intellectual property is emerging as an increasingly important tool, capable of unlocking the latent value of intangible assets and generating liquidity for businesses. However, it's implementation faces a crucial challenge: the lack of a uniform and clear regulatory framework at the global level.

The IP securitization, a process through which intellectual property rights are transformed into marketable financial securities, proves to be a particularly interesting instruments for companies that hold a portfolio of patents, trademarks, copyrights or other intangible assets. Nevertheless, the intrinsic complexity of this type of financing method, together with the diversity of national regulations and the lack of a harmonized international discipline, makes the path of IP securitization a rough terrain. The laws governing intellectual property rights vary significantly from country to country, as do the mechanisms for transfer and collateralization: thus, it becomes essential to read into the local laws of a country to fetch a better understanding of the subject matter.

At the international level, instruments such as the Uniform Commercial Code (UCC) in the United States and the conventions of the World Intellectual Property Organization (WIPO) offer general principles, but do not provide a complete and specific discipline for the IP securitization. As a result, operators find themselves navigating through a labyrinth of national laws, often uncoordinated with each other, with the risk of incurring legal uncertainties and high costs. The presence of clear and specific regulations is therefore essential for the development and dissemination of IP securitization. A solid and transparent regulatory frame-

work builds confidence in investors, facilitates the standardization of operations and reduces legal risks. From this perspective, the harmonization of regulations at the international level represents a crucial, albeit complex, objective to achieve.

This chapter aims to analyze the main regulatory frameworks governing IP securitization in four key context: the United States, Europe, Italy and China. Then, a comparative analysis is performed to highlight the similarities and differences between the different approaches, as well as the challenges and opportunities related to the development of this market. Furthermore, the comparative analysis aims to highlight how in the most developed and advanced countries, such as the United States, the IP securitization sector is more regulated and how these regulatory models can serve as an example for developing countries that intend to promote this financial instruments.

4.1 USA framework

In the United States, although there is no law specifically dedicated to securitization, existing laws regarding securities and trust indentures are applicable and sufficient to regulate its frameworks. For example, the SPV is equivalent to a securities issuing company, with the task of offering securities to investors and managing assets to generate income for the benefit of investors. Intermediaries such as dealers and underwriters may also be involved in securitization to assist the SPV in selling securities, while a trustee or transferee may be responsible for managing assets for the benefit of beneficiaries. However, in the US, a conflict between the registered IP law and secured financing laws creates a legal obstacle to establishing a security interest in an IP right. This conflict creates uncertainty about the procedures to follow to perfect a security interest in an IP right. Therefore, for the US, the following laws and codes are fundamental to ensuring the legal certainty of securitization:

- SEC regulations and guidelines (specifically Regulation AB and ABII)
- Article 9 of the Uniform Commercial Code (UCC)
- Bankruptcy Code (specifically Section 365)
- Securities Act of 1933 and Securities Exchange Act of 1934

• Patent Act, Copyright Act and Trademark Act.

The Securities and Exchange Commission (SEC) regulations are a key element of the U.S. regulatory framework governing securitization, including that of intellectual property. These regulations, together with federal laws such as the Securities Act of 1933 and the Securities Exchange Act of 1934, define the rules for the offer and sale of securities, information transparency and investor protection.

In particular, the **Securities Act** of 1933 requires that any offering of securities by investment companies be registered with the SEC and that the activity be conducted under certain conditions to protect investors; for example, full disclosure of any relevant information to investors must be conducted and published before offering the sale of financial instruments. If any of the offerings are not registered with the SEC, it will be considered to be in violation of the Securities Act and will result in criminal penalties. After registration, investment companies must comply with the disclosure requirements of the Securities Act. Disclosure helps investors choose securities that match their intentions. That is, investors can receive accurate information about securities issuers regarding companies' revenue, balance sheets, and so on. Documents that demonstrate this information, such as balance sheets, a securities offering report, or a report on the company's assets, must be submitted to the SEC for review before an offering is granted. Although all relevant information is reviewed, after approval, the SEC does not certify the truthfulness and accuracy of the information. Therefore, it is not illegal if securities issuers offer low-quality products as long as accurate information is presented by the securities issuers.¹

While the Securities Act regulates the offering of securities, the Securities Exchange Act controls intermediaries involved in the securities business, including exchanges, dealers, brokers, self-regulatory organizations, etc. The Securities Exchange Act also imposes ongoing reporting obligations for issuers after such securities have been distributed in the secondary market. This requires issuers to actively report any material changes in the business more frequently. In addition, the prospectus and periodic report must contain specific information regarding the assets in the pool. The Securities Exchange Act also defines the concept of an asset-backed security (ABS), without explicitly determining what is eligible to be securitized. However, the assets must have the character of (1) fixed income or (2) other securities secured by any type of *self-liquidating financial asset*. Therefore, any asset that generates adequate income for repayment to creditors may fall

¹https://www.law.cornell.edu/wex/securities_act_of_1933

within the term "self-liquidating financial asset".²

In this context, **Regulation AB** was specifically drafted to regulate ABSs through prospectuses and periodic reports, which are the additional criteria respectively to the Security Act and the Securities Exchange Act. The prospectus is necessary when initial public offerings occur, and periodic reports are used to inform investors of the significant information relating to such ABSs. These requirements were adopted by the *Dodd-Frank Act*, enacted to improve the performance of securitization during the 2010 financial crisis following the lack of information from investors before purchasing the security. After the implementation of the Dodd-Frank Act in 2010, the amendment of Regulation AB, also called **Regulation AB II**, began to improve investor protection by enhancing disclosure and periodic reporting. Regulation AB II became effective around August 2014. For this purpose, the prospectus is required three days before the public offering so that investors can have more time to decide whether to invest. Regarding asset-level information, the regulation requires issuers to provide standardized loan-level information to investors concurrently with the filing of the shelf prospectus.

In addition, the **Trust Indenture Act** is involved in regulating any aspects reflected in the trust indenture. For the management of pooled assets, the trustee has a duty to administer such assets for the benefit of the investors according to each trust contract. Meanwhile, the trustee has certain responsibilities to them. For example, the trustee needs to be responsible for the transfers of investors' money to another account and complying with the Trust Indenture Act. In the event of default, the Trustee must report such a situation to the investors. Sometimes, the trustee may have to be responsible for selling and acquiring collateral that is in the trustee's possession. Since asset securitization separates the liability of the originator from the securitized asset and transfers such liability to the SPV, the SPV has the duty to allocate the underlying asset for generating income which is used to recoup investors. Thus, the SPV needs to comply with the Trust Indenture Act as it is deemed to have services as well as the trustee. The core duties of the trustee may consist of monthly or periodic reports and disposition of the assets backing the trust.[7]

In general, the SEC has adopted specific regulations for securitization, which also apply to the securitization of intellectual property. These regulations cover, for example, the structure of securitization vehicles, due diligence requirements, risk

²https://www.law.cornell.edu/wex/securities_exchange_act_of_1934

management, and disclosure of underlying information.³

Security interests are governed by **Article 9** of the Uniform Commercial Code, which is adopted by each state and functions as state law. The general rule is that federal law prevails over state law. There are several important exceptions to this rule that may be applicable in these circumstances. Article 9 is part of the *Uniform Commercial Code* that governs the creation and perfection of consensual security interests. Each state has incorporated the Uniform Commercial Code into its state laws through ratification: the purpose of the UCC was to provide uniformity, efficiency and predictability for commercial laws among the states since, prior to its creation, commercial laws varied widely among the states. In particular, Article 9 specifically governs security interests in "personal property," which includes the category of general intangibles. In the Constitution, individual states have the power to enact their own laws. Despite the constitutional powers of the states, federal law may preempt Article 9 in certain circumstances. This is true of Article 9 and the rest of the Uniform Commercial Code, despite the fact that the states have unanimously adopted it.

The issue of preemption creates several issues in other procedural matters in perfecting a security interest in an IP right. The first issue concerns what constitutes an adequate description of the collateral for purposes of perfecting the security interest. In Article 9, the information required in financing statements to perfect the security interest is minimal: (1) provide the name of the debtor; (2) provide the name of the secured party or the secured party's representative; and (3) indicate the collateral covered by the financing statement. The third requirement causes problems when registered IP is the collateral being described. Under this requirement, the description can be general or even vague. The term "general intangibles" is often used to describe IP in a financing statement. Under the rules of Article 9, this description would be sufficient to perfect the security interest in all of the debtor's IP rights. Under IP law, this description must be detailed because the laws regarding IP ownership and ownership transfers are specific to the asset and require that the exact right be identified.

Under Article 9, there are three key areas for the creation of a security interest: attachment, perfection and priority. Specifically, the security interest attaches to the collateral after the written agreement has been entered into between the two parties.

³https://www.sec.gov/rules-regulations/staff-guidance/compliance-disclosureinterpretations/asset-backed-securities

Article 9 states that a security agreement is valid if:

- 1. Value has been given;
- 2. The debtor has rights in the collateral or the power to transfer rights in the collateral to a secured party;
- 3. The debtor has authenticated a security agreement that provides a description of the collateral.

Because Article 9 is a state law, it requires the creditor to file a financing statement, called a *UCC-1*, in the correct registry. Despite having different adopted forms of Article 9, all states require the filing of the UCC-1 financing statement to perfect the security interest. When the creditor files the financing statement, the security interest is recorded in the registry under the debtor's name. When the financing statement has been filed and recorded, the security interest is perfected. Finally, the basic rule is that the security interest with the earliest perfection date has priority over all later security interests.

One of the main issues is the fact that Article 9 may conflict with the **Patent Act**, **Copyright Act**, and Trademark Act (also called the **Lanham Act**) regarding the perfection of security interests: these acts are specific to the type of IP.

The **Bankruptcy Code**, and in particular **Section 365**, play a crucial role in the securitization of intellectual property in the US. In particular, there is a risk that the original IP owner (and thus assignor) will go bankrupt. Section 365 of the Bankruptcy Code regulates *executory contracts* in bankruptcy. An executory contract is a contract in which both parties still have obligations to perform. License agreements or assignments of IP rights are considered executory contracts. In the event of the assignor's bankruptcy, Section 365 protects the SPV by allowing it to continue to benefit from the acquired rights, even if the assignor is bankrupt. Section 365 provides legal certainty to IP securitization transactions by clarifying what happens to licensing or assignment agreements in the event of the originator's bankruptcy. Section 365 provides legal certainty to IP securitization transactions by clarifying what happens to licensing or assignment agreements in the event of the originator's bankruptcy. In the event of bankruptcy, the bankruptcy trustee has the option to assume the executory contract, i.e. to take over from the bankrupt, or to 'reject' it. In the case of IP, the assumption of the contract is crucial to ensure that the IP rights continue to be valid and that the SPV or investors retain control. There are some limitations to the assumption of executory contracts, for

instance if the contract contains *ipso facto* clauses that automatically terminate it in the event of bankruptcy. However, these clauses are often invalidated by the courts.⁴

4.2 Europe framework

European regulatory responses to securitization generally fall into five categories: enhanced disclosure, mandatory risk retention, rating agency reforms, capital requirements, and due diligence obligations. With the exception of due diligence, these categories mirror the U.S. approach. The overall goal is to establish uniform securitization rules, creating a European framework for *simple*, *transparent*, and *standardized securitizations (STS)*.

The European regulatory landscape for intellectual property securitization is complex and multifaceted. Regulations EU 2017/2402 and 2021/557, Directive 2014 /26/EU, the Prospectus Directive and the MAR form the foundation of this framework, establishing general principles for securitization, collective management of copyrights, securities offerings and market abuse. However, these key sources are not exhaustive. National legislation in individual member states may include specific rules for securitization and intellectual property. Additionally, a range of secondary regulations and directives implement the general principles of primary legislation, while case law plays a crucial role in interpreting and applying the laws. Finally, *soft law* sources, such as recommendations and guidelines, can provide useful guidance on legal implementation.

Regulation EU 2017/2402 represents a milestone in European securitization regulation. Its primary objective is to establish a harmonized and comprehensive framework for securitizations, aiming to enhance transparency, simplicity, and safety. This, in turn, seeks to promote financial stability, investor protection, and economic growth. Specifically, Article 2 of the Regulation precisely defines key terms such as *securitization, entity falling within the scope of securitization, institutional investor, originator, sponsor, SPV* and others. This terminological clarity is crucial for ensuring uniform application of the Regulation and avoiding ambiguous interpretations. Article 5 requires institutional investors (such as banks, insurance companies, investment funds) investing in securitizations to con-

⁴P. Menell, Bankruptcy Treatment of Intellectual Property Assets: An Economic Analysis. [23]

duct thorough due diligence. They must carefully assess the risks associated with the investment, ensuring they have adequate knowledge of the transaction structure, the characteristics of the underlying assets, and the quality of the parties involved. Furthermore, Articles 7 et seq. of the Regulation set out detailed rules on the transparency of securitizations. The parties involved are required to disclose complete and accurate information on the underlying assets (e.g., the composition of the asset pool), the transaction structure (e.g., the methods of issuing securities, guarantee mechanisms) and the associated risks. Article 8 establishes the requirements that securitization vehicles (SPVs) must meet. SPVs must be established in accordance with applicable law and must have an adequate structure and governance to ensure investor protection. Articles 15 et seq. of the Regulation introduce rules on the management of risks associated with securitizations. The parties involved must adopt appropriate policies and procedures to identify, assess, and manage risks, with particular attention to credit risk (i.e., the risk that debtors will not pay their debts) and liquidity risk (i.e., the risk of not being able to obtain financing). In addiction, articles 19 to 26 establish the detailed criteria that a securitization must meet to be considered simple, transparent, and standardized (STS). These criteria relate to the simplicity of the transaction structure, the transparency of information on the underlying assets, and the standardization of procedures. STS securitizations benefit from a more favorable regulatory treatment, as they are considered less risky. Finally, Articles 29 et seq. of the Regulation grant competent authorities the power to supervise compliance with the Regulation and to impose sanctions in case of violations.

Competent authorities may conduct inspections, request information and documents, adopt corrective measures, and sanction parties that do not comply with the rules. These authorities may include: *national supervisory authorities*, *ESMA (European Securities and Markets Authority)*, *EBA (European Banking Authority)* and *EIOPA (European Insurance and Occupational Pensions Authority)*. ESMA is a European supervisory authority that plays a coordinating and supporting role for national competent authorities, develops technical standards, provides guidance, and promotes cooperation between national authorities. EBA is another European supervisory authority that focuses on the banking sector and is involved in the supervision of securitizations involving banks and other credit institutions. Finally, EIOPA is the European supervisory authority responsible for the insurance and pension sector and is involved in the supervision of securitizations in which insurance companies and pension funds invest.

Regulation (EU) 2017/2402 applies to all securitizations, including intellectual

property securitization. However, it does not contain specific provisions for IP securitization. This means that the general rules of the Regulation also apply to this type of securitization but it is necessary to take into account the specificities of intellectual property rights, which are intangible assets and may have particular characteristics in terms of valuation, transfer and management.⁵

Regulation EU 2021/557, effective from April 9, 2021, is not a standalone regulation but rather an amendment to Regulation (EU) 2017/2402. Therefore, it must be read and interpreted in conjunction with the latter. The main changes concern two specific types of securitizations:

- 1. Securitizations of non-performing loans (NPL securitizations): the Regulation introduces specific rules for securitizations of non-performing loans (NPLs). These rules aim to promote the efficient management of NPLs, facilitating their transfer from banks' balance sheets to specialized investors.
- 2. On-balance-sheet synthetic securitizations: the Regulation introduces specific rules for synthetic securitizations, where credit risk is transferred through derivative contracts rather than through the assignment of the underlying assets. These rules aim to ensure the transparency and correct assessment of the risks associated with such transactions.

The new specific rules for NPL securitizations should facilitate the reduction of non-performing loans on banks' balance sheets, contributing to improving their capital strength and freeing up resources for new financing to the real economy. The new rules for synthetic securitizations aim to ensure that these transactions are transparent and correctly assessed, in order to prevent systemic risks and protect investors.

Again, Regulation (EU) 2021/557 does not contain specific provisions on the securitization of intellectual property; its amendments may also be relevant to this type of transaction, particularly if IP securitization involves impaired assets or if a synthetic securitization structure is used.⁶

⁵Regulation EU 2017/2402 [34]. Available at: https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:32017R2402

⁶Regulation EU 2021/557 [35]. Available at: https://eur-lex.europa.eu/legal-content/ EN/TXT/HTML/?uri=CELEX:32021R0557

Directive 2014/26/EU, also known as the "Barnier Directive", is a key piece of European legislation aimed at regulating the collective management of copyright and related rights. This directive focuses primarily on the transparency, governance, and supervision of collective management organizations (CMO). The Directive sets clear requirements for internal governance, financial reporting and communication with rights holders. The goal is to ensure that these organizations operate efficiently, transparently and responsibly, protecting the interests of rights holders. The Directive promotes the granting of multi-territorial licenses for copyrights in musical works for online use. This facilitates access to online music content across the European Union, benefiting both rights holders and users. The Directive stipulates that CMOs distribute the proceeds from the management of rights fairly and promptly to rights holders. The Directive encourages the creation of alternative dispute resolution mechanisms between collective management organizations and rights holders, in order to avoid lengthy and costly legal battles. Directive 2014/26/EU has had a significant impact on the collective management sector in Europe. It has helped to improve the transparency and governance of CMOs, to facilitate the granting of multi-territorial licenses and to promote a fairer distribution of proceeds to rights holders. By providing a clear regulatory framework, it ensures that rights holders are adequately represented and that their

Directive 2003/71/EC, known as the **Prospectus Directive**, served for years as the primary European legislation governing the publication of the prospectus for public offerings of securities or admission to trading on a regulated market. However, it was abrogated by Regulation (EU) 2017/1129, which entered into force on 21 July 2019. The prospectus is a fundamental document containing detailed information about the issuer, the securities offered, and the risks associated with the investment. The Directive (and now the Regulation) aims to ensure that investors have access to complete and accurate information to make informed investment decisions. The prospectus must be approved by the competent authority to ensure that the information it contains is correct and complete. This control mechanism aims to protect investors from misleading or incomplete information. The Directive introduced harmonized rules at the European level regarding the prospectus, facilitating the cross-border offering of securities and promoting the integration of financial markets. In particular, the prospectus must contain detailed information

interests are protected, including in the context of securitization transactions.⁷

⁷Directive EU 2014/26/EU [32]. Available at: https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:32014L0026

on the underlying IP asset, the structure of the securitization transaction, the associated risks, and the methods of managing the IP rights. Specifically, it must contain information on:

- The issuer: information on the issuer's organization, activities, financial situation, and specific risks.
- The securities offered: description of the characteristics of the securities offered, such as the type, related rights, repayment methods, and specific risks.
- The offer: information on the terms of the offer, such as the price, the offer period, the parties involved, and the methods of distributing the securities.
- The risk factors: analysis of the main risk factors associated with the investment, both those relating to the issuer and those relating to the securities offered.⁸

Lastly, Regulation EU No 596/2014, known as the MAR (Market Abuse Regulation), is a fundamental piece of European legislation aimed at preventing and combating market abuse, such as insider trading and market manipulation. The MAR aims to preserve the integrity of financial markets, ensuring that all operators have equal access to information and that investment decisions are based on correct and transparent information. Furthermore, the MAR protects investors from unfair practices that can alter the value of financial instruments and prejudice their investment decisions. Finally, it clearly defines the conduct that constitutes market abuse and provides for severe penalties for those who commit it. In particular, according to Article 10, it punishes the disclosure of inside information to third parties in violation of a confidentiality obligation. According to Article 14, the MAR prohibits and punishes the use or disclosure of inside information, i.e., non-public information which, if made public, could significantly influence the price of a financial instrument. Finally, according to Article 15, it punishes any action that aims to provide false or misleading indications of the price or demand of a financial instrument.

The MAR is relevant to the securitization of intellectual property because it is a financial instrument. Violations of the MAR are subject to high administrative fines and, in some cases, even criminal penalties.⁹

⁸Directive 2003/71/EC [31]. Available at: https://eur-lex.europa.eu/legal-content/ EN/TXT/HTML/?uri=CELEX:32003L0071

⁹Regulation EU No 596/2014 [33]. Available at: https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:32014R0596

4.3 Italy framework

Securitization developed in Italy later compared to its adoption in other European countries like the UK, Spain and France. In Italy, the spread of securitization previously faced legislative obstacles and was implemented through complex contractual arrangements, centered on the involvement of foreign entities. The process was generally separated through the establishment of two SPVs:

- An Italian SPV qualified as a factoring company, which purchased the receivables assigned by the originator on a non-recourse basis.
- A foreign SPV, which issued ABS and provided the Italian SPV with a loan repayable according to the financial flows derived from the pool of assigned assets.

The lack of ad hoc legislation thus required the use of complex structures, which involved a double assignment of receivables, based on the intervention of offshore entities and with the application by analogy of existing regulations, such as the one relating to factoring. To remedy these critical issues and to regulate the matter, the legislator issued Legge 130/1999 with the aim of the provision to outline the fundamental characteristics of the operation, leaving ample contractual autonomy to economic operators, borrowing much of the experience gained previously in the international arena.¹⁰ In addition, further regulations such as the Codice della Proprietà Industriale and Testo Unico della Finanza are relevant in the context of securitization.

Legge 130/1999, despite being composed of only twelve articles, represents the milestone in the regulation of securitization in Italy. This law, entitled "Disposizioni sulla cartolarizzazione dei crediti", introduced a general regulatory framework that governs the scope, the structure of the process, the companies involved, the tax aspects, the conditions and requirements for the transfer of credits, the comparability with other transactions and special cases. Article 1 defines the scope of the law, specifying that it applies to securitization transactions carried out through the onerous transfer of monetary credits, both existing and future, identifiable as a block if it is a plurality of credits. This means that securitization always involves a transfer of credits for payment, that the credits subject to securitization must

¹⁰G. Giovando, L'operazione di securitization. Analisi dei processi di rilevazione e di gestione, p. 83-84. [12]

have a sum of money as their object, that it is possible to securitize both credits already existing at the time of the transfer and credits that will arise in the future, and that, if it is a plurality of credits, it is sufficient that they are identifiable as a group (for example, credits deriving from a specific contract). Article 1, paragraph 1, letter b), provides that the sums paid by the assigned debtors are used exclusively by the assignee company to satisfy the rights incorporated in the securities issued to finance the purchase of the credits, as well as to pay the costs of the transaction. This mechanism guarantees the separation of the assets of the securitization vehicle from the assets of the assignor, to protect investors. In addiction, Article 2 provides that the management of the assigned credits is entrusted to a specialized entity (servicer), which can be the assignor itself or a third party. The servicer has the task of collecting the credits, managing relations with debtors, and taking care of the administrative obligations related to the credits. Furthermore, Article 3 establishes the requirements that the assignee company, or the securitization vehicle (SPV), must possess. In particular, it must be a capital company, having as its exclusive corporate purpose the purchase, management and securitization of credits. The law provides for specific capital requirements for the assignee company, in order to guarantee its financial solidity. Lastly, Articles 4 et seq. provide for a series of mechanisms to protect investors, including the separation of assets (Article 4), the establishment of guarantees (Article 5) and information to investors (Article 6).

Over the years, the Law has been amended to adapt the legislation to the continuous changes in financial markets. One of the most significant interventions was the one operated by Decreto Legge 18/2016, converted by Legge 49/2016, on the subject of securitization of non-performing loans (NPLs).¹¹

The Codice della Proprietà Industriale (CPI), also called D.Lgs. 30/2005, represents the core of Italian legislation on industrial property rights, protecting patents, trademarks, designs and copyright. The CPI not only defines the rights of owners but also regulates how they can be transferred, ensuring legal certainty and protecting investments. Articles 1 et seq. of the CPI outline the general principles of industrial property, emphasizing the importance of protecting rights and promoting innovation and listing the various industrial property rights protected by the Code: patents, trademarks, designs and copyright. A fundamental aspect of the CPI is the regulation of how industrial property rights are transferred. Ar-

¹¹Legge 130/1999 [17]. Available at: https://www.normattiva.it/uri-res/N2Ls?urn:nir: stato:legge:1999-04-30;130

ticles 20 et seq. require a written agreement and registration with the competent offices to guarantee the validity and enforceability of the transfer against third parties. The CPI pays particular attention to the regulation of patents (Articles 14 to 65), which protect inventions, utility models and supplementary protection certificates. The Code provides for the possibility of establishing real guarantee rights on patents, such as mortgages, by registering them with the *Ufficio Italiano Brevetti e Marchi (UIBM)*. Articles 66 to 102 of the CPI are instead dedicated to trademarks: in this case too, the Code provides specific rules for the registration, protection and transfer of trademarks, with provisions similar to those applied to patents. Finally, Articles 107-110 of the CPI contain some specific provisions on copyright, with particular attention to licenses and assignments, which regulate the economic exploitation of intellectual works.

In the context of securitization, it is of fundamental importance to precisely identify the industrial property rights that are securitized, specifying the type (patent, trademark, design, copyright), the title (registration number, filing date) and the object (product, service, intellectual work). The transfer of industrial property rights to the securitization vehicle must take place in compliance with the CPI rules, through a written act and registration with the competent offices. For example, for trademarks and patents, the competent office is the UIBM, while for copyright it is the *SIAE (Società Italiana Autori ed Editori)*. Finally, the establishment of guarantees on industrial property rights as collateral for the securities issued in the context of securitization must take place through registration in the competent registers, in order to make the guarantee enforceable against third parties and protect investors.¹²

The **Testo Unico della Finanza (TUF)** is a fundamental piece of legislation that regulates financial markets, financial intermediaries and the offering of financial instruments in Italy. Although it does not contain specific provisions on the securitization of intellectual property, some of its rules are relevant to this type of transaction. Article 1, paragraph 2, of the TUF broadly defines financial instruments, including derivatives, which are typically used in securitization transactions. This broad definition means that even securities issued in the context of the securitization of intellectual property rights fall within the category of financial instruments and are therefore subject to the discipline of the TUF. Articles 94 et seq. of the TUF regulate the public offering of financial instruments, providing

¹²D.Lgs. 30/2005 [18]. Available at: https://www.normattiva.it/uri-res/N2Ls?urn:nir: stato:decreto.legislativo:2005-02-10;30

for the obligation to publish a prospectus and obtain approval from the *Consob*. Consequently, the public offering of securities deriving from the securitization of intellectual property rights is also subject to these requirements, with the need to provide detailed information on the issuer, the securities offered and the risks associated with the investment, including those relating to the underlying intellectual property rights. Title II of the TUF regulates the activities of financial intermediaries, such as banks and securities brokerage firms (SIM), which may be involved in securitization transactions as originators, arrangers or investors. These intermediaries, when participating in securitization transactions of intellectual property rights, must comply with the TUF rules on capital adequacy, risk control and transparency, to protect investors and the stability of the financial system. Finally, Part V of the TUF contains provisions on market abuse, such as insider trading and market manipulation, which are also relevant to the securitization of intellectual property rights. These provisions aim to prevent and combat unfair practices that may alter the value of securities or harm investors, ensuring the fairness and transparency of securitization transactions.

In summary, the TUF rules are relevant to the securitization of intellectual property because the securities issued in these transactions are considered financial instruments and, consequently, are subject to the provisions of the TUF. It is essential to pay attention to aspects related to the prospectus, financial intermediaries, and market abuse, in order to ensure compliance with regulations and the protection of investors.¹³

Lastly, in addition to national regulations, a crucial role in regulating the securitization of intellectual property is played by EU law. Although there is no directive or regulation specifically dedicated to the securitization of intangible assets such as IP, it is essential to consider the European legislation that impacts this type of transaction. In particular, **Regulation EU 2017/2402** already described in paragraph paragraph 4.2, relating to a framework for securitisation and creating a specific framework for simple, transparent and standardised securitisations, represents an essential point of reference. Although the primary focus of this regulation is the securitization of loans and other financial assets, the general principles that inspire it – such as transparency, standardization and due diligence – are also applicable to securitization transactions involving intellectual property.

¹³D.Lgs. 58/1998 [16]. Available at: https://www.normattiva.it/uri-res/N2Ls?urn:nir: stato:decreto.legislativo:1998-02-24;58

4.4 China framework

The IP securitization in China is still a relatively new and developing field. There are some challenges to overcome, such as the lack of specific regulations on IP securitization and the complexity of IP rights transfer procedures. However, there are also many opportunities, such as the growing importance of intellectual property in the Chinese economy and the demand for new forms of financing for innovative enterprises. In particular, the *China Securities Regulatory Commission (CSRC)* plays a central role in regulating and supervising securitization operations in China, including the securitization of intellectual property. The main rules/regulations regarding this financing method are the Securities Law, the Securities Investment Fund Law, the Administrative Measures for Asset Securitization and the Intellectual Property Rights Law.

The **Securities Law** is the fundamental law governing the issuance and trading of securities in China. While it does not contain specific provisions on the securitization of intellectual property, it provides the general framework for the issuance of securities, including those derived from securitization. Article 2 of the Securities Law broadly defines securities, including stocks, bonds, warrants, investment fund shares and other financial instruments. This broad definition allows for the inclusion of derivative securities, which are typically used in securitization transactions. Articles 9 to 36 govern the public offering of securities, requiring the publication of a prospectus and obtaining approval from the China Securities Regulatory Commission (CSRC). The prospectus must contain detailed information about the issuer, the securities offered and the risks associated with the investment. Articles 50 to 68 regulate the trading of securities in financial markets, including requirements for listed companies and rules on transparency and insider trading. Articles 180 to 225 contain provisions on penalties for violations of the law, including market abuses such as insider trading and market manipulation.

The Securities Law is relevant to the securitization of intellectual property because the issuance and trading of securities are subject to the provisions of the Securities Law. The public offering of securities derived from IP securitization is subject to the requirement to publish a prospectus and obtain approval from the CSRC. The prospectus must contain detailed information on the underlying IP rights, the structure of the securitization transaction and the specific risks associated with this type of investment. IP securitization transactions are subject to the provisions of the Securities Law regarding market abuses. This means that improper conduct that may distort the value of securities or harm investors, such as insider trading and market manipulation, is prohibited and penalized.¹⁴

The Securities Investment Fund Law regulates the management of securities investment funds in China, which are instruments that can be used to securitize various types of assets, including intellectual property rights. Article 2 defines securities investment funds as funds that raise capital from investors and invest it in securities, such as stocks, bonds and other financial instruments. This broad definition includes derivative securities, which are often used in securitization transactions. Articles 6 to 22 govern the establishment and management of securities investment funds, establishing specific requirements for managers, custodians and advisors. Managers must obtain a license from the CSRC and are required to comply with strict rules on risk management and conflicts of interest to ensure transparency and investor protection. Articles 23 to 39 regulate the public offering and trading of shares of securities investment funds. The public offering is subject to CSRC approval, and a prospectus must be published containing detailed information about the fund, its management and the risks associated with the investment. This allows investors to make informed decisions. Articles 40 to 52 contain provisions on investor protection, providing for transparency and disclosure obligations on the part of managers, as well as the possibility for investors to exercise voting and withdrawal rights under certain circumstances.

The Securities Investment Fund Law is particularly relevant to the securitization of intellectual property because securities investment funds can be used to securitize assets, including IP rights. In these cases, the fund acts as a SPV and the securities issued by the fund are backed by the underlying IP rights, offering investors exposure to these assets. The management of securities investment funds that securitize IP rights is subject to the provisions of the law. This means that managers must obtain a license from the CSRC and comply with strict rules on risk management and conflicts of interest, just as for other funds. The public offering of shares of securities investment funds that securitize IP rights is subject to CSRC approval and a prospectus must be published. This prospectus must contain detailed information on the underlying IP rights, the structure of the securitization transaction and the specific risks associated with this type of investment, to ensure

¹⁴Securities Law of the People's Republic of China (Version 2019). Available at: https://fyjjxy.zuel.edu.cn/_upload/article/files/68/72/

²f6833774fa1b877d91a1fe06d06/addfdf5a-f0b2-4016-bb72-309fa105ff28.pdf

that investors are fully aware of the nature and risks of the investment.¹⁵

The Administrative Measures for Asset Securitization (2014 Version, and subsequent amendments), issued by the China Securities Regulatory Commission, provide specific guidelines for asset securitization in China, including intellectual property rights. These measures are a fundamental piece for understanding how securitization works in this specific context. Article 2 defines asset securitization as a process in which assets are pooled and used as collateral for the issuance of securities. This broad definition allows for the inclusion of intellectual property rights, paving the way for their securitization. Articles 8 to 11 establish specific requirements for originators that transfer the assets to the SPV. Originators must have a sound financial position and a good reputation, and must comply with certain rules on due diligence and disclosure to protect investors and ensure the transparency of the transaction. Articles 12 to 17 define the specific requirements for SPVs: these must be established in accordance with the law and must have an adequate structure and governance to ensure investor protection, ensuring that their interests are adequately protected. Articles 18 to 21 concern servicers, i.e., the entities that manage the securitized assets. Servicers must have proven experience in managing similar assets and must comply with certain rules on conflicts of interest and transparency to avoid potential problems and ensure efficient management of the assets. Articles 22 to 29 deal with disclosures and the prospectus. The measures require the provision of detailed information to investors, both during the offering of securities and during the management of the transaction. A prospectus must be published containing information on the underlying assets, the structure of the transaction, the risks and the parties involved, to enable investors to make informed decisions.

The Administrative Measures for Asset Securitization are particularly relevant to the securitization of intellectual property because they provide specific guidance on various aspects:

- Securitizeable IP rights: the measures do not exhaustively list the IP rights that can be securitized, but the broad definition of "assets" allows for the inclusion of patents, trademarks, copyrights and other intellectual property rights, opening up a wide range of possibilities.
- Valuation of IP rights: the measures do not provide specific criteria for the

¹⁵Securities Investment Fund Law (Version 2015) [29]. Available at: https://english.www.gov.cn/services/investment/2014/08/23/content_281474982978075.htm

valuation of IP rights, but require that originators and servicers conduct adequate due diligence to assess the value and quality of the underlying assets. This emphasizes the importance of an accurate and professional valuation.

• Transfer of IP rights: the measures do not directly regulate the transfer of IP rights, which is governed by other laws (such as the Intellectual Property Rights Law). However, they require that the transfer takes place in compliance with applicable laws and that it is properly documented, to ensure the validity and effectiveness of the transfer.¹⁶

In conclusion, this is a legal document that provides detailed information about a security offering to potential investors.

The Intellectual Property Rights Law of the People's Republic of China, together with its subsequent amendments, is the fundamental legislation governing intellectual property rights in China, including patents, trademarks and copyrights. This law is crucial for the protection and management of intellectual property in the country. Article 2 of the law precisely defines the different types of intellectual property rights, specifying the rights and powers that belong to the holders. For example, with regard to patents, the law distinguishes between invention patents, utility model patents and design patents, each with a different duration and scope of protection. This distinction allows for the adaptation of patent protection to the specific nature of the innovation. Invention patents, for example, protect new technical solutions, while utility model patents protect new forms or structures of existing objects. Design patents, on the other hand, protect the aesthetic appearance of a product. Articles 10 and following regulate the methods of transfer of IP rights, providing for the need for a written document and registration with the competent offices. For example, for patents, the transfer must be registered with the State Intellectual Property Office (SIPO), ensuring the publicity and enforceability of the transfer against third parties. Registration is a fundamental step to ensure the legal certainty of the transfer and protect the rights of the new holder. Articles 47 and following provide for mechanisms for the protection of IP rights, such as legal actions for infringement of rights and administrative measures for the repression of counterfeiting. For example, the holder of a patent can take legal action against anyone who uses it without authorization, thus protecting his exclu-

¹⁶These measures come from several documents available on the official CSRC website. http://www.csrc.gov.cn/csrc_en/c102034/common_list.shtml?channelid=ae291c62f625438a98b4bdb358753532
sive right to the invention. The law also provides for the possibility of requesting precautionary measures to prevent the continuation of the infringement and obtain compensation for the damage suffered.

The Intellectual Property Rights Law is of fundamental importance for the securitization of intellectual property because it defines the rights that can be securitized, governs the transfer of rights and regulates the establishment of guarantees. In other words, this law provides the essential legal framework for the securitization of intellectual property rights in China, allowing operators to structure and carry out securitization transactions effectively and safely, while protecting the rights of holders and investors.¹⁷

4.5 Regulations Comparative Analysis

To provide a clearer and simpler overview, the following pages present a comparative analysis of the regulations discussed above, highlighting the main similarities and differences across the various countries regarding the regulation of IP securitization. In particular, table 4.1 provides a general framework, taking into account the USA, Europe, Italy and China. While the common goal is to create global harmonization from a legislative standpoint, each country has developed its own ad hoc laws, while still allowing a degree of autonomy to the parties involved.

The comparative analysis of intellectual property securitization regulations in major countries (USA, Europe, Italy, and China) highlights some common trends and national specificities. First, in all countries considered, the use of a special purpose vehicle (SPV) is essential to isolate the securitized assets from the originator's bankruptcy risk and to ensure asset segregation to protect investors. The regulations of all countries place great emphasis on investor protection, providing for disclosure requirements, asset segregation mechanisms and guarantees on IP rights. Financial intermediaries (investment banks, brokerage firms, etc.) play a crucial role in securitization transactions, assisting originators in structuring the transaction, placing securities and managing assets.

The US has a long tradition in the field of securitization, with a broad and wellestablished regulatory framework - **Regulation AB and ABII**, **UCC Article 9,Bankruptcy Code**, **Securities Act and Securities Exchange Act**. The US market is characterized by a wide variety of transactions and a high level of

¹⁷The information on the Intellectual Property Rights Law of the People's Republic of China was collected from various sources, including government websites such as the National People's Congress (NPC), which is the highest legislative body in China.

sophistication of the financial instruments used. The European Union has recently introduced specific legislation on securitization - EU Regulation 2017/2402 and 2021/557 - with the aim of harmonizing the rules and promoting market development. At the national level, some countries (such as Italy) have adopted specific laws to regulate the securitization of certain types of assets, including intellectual property. Italy has securitization legislation - Legge 130/1999 - that also applies to intellectual property, together with the Codice della Proprietà Industriale (CPI) and the Testo Unico della Finanza (TUF). The Italian market is still developing but shows a growing interest in the securitization of intangible assets. China has regulations on securitization - Securities Law, Securities Investment Fund Law, Administrative Measures for Asset Securitization that also apply to intellectual property, together with the Intellectual Property Rights Law. The Chinese market is growing rapidly and has great potential for the securitization of intangible assets, although some challenges remain related to the valuation and protection of intellectual property rights.

In less developed countries, where the phenomenon of intellectual property securitization is not yet widespread, more advanced countries are often used as a model, both from a legislative and operational point of view. International organizations such as the *World Bank* and *WIPO (World Intellectual Property Organization)* promote the dissemination of international models and standards in the field of intellectual property securitization. Consequently, it is important that less developed countries develop the institutional and professional capacities to manage intellectual property securitization transactions effectively, adapting the reference models to their specific economic, legal and cultural characteristics.

Evaluating the "severity" of a regulation is a complex task, as it depends on a multitude of factors and the specific perspective from which one chooses to analyze it. Despite this complexity, it is possible to identify some key characteristics that contribute to defining the degree of stringency of a regulation. First and foremost, the detail of the rules that comprise it plays a fundamental role: regulations that provide for extremely detailed and specific regulation can be considered more severe, as, in fact, they reduce the space for interpretation and the consequent autonomy of the parties involved. Another aspect to consider is the level of disclosure requirements imposed: regulations that require high standards of transparency and complete and accurate communication towards investors can be interpreted as more severe, as they require a greater commitment from companies to fulfill these obligations. Last but not least, the sanctioning system provided for the violation of the rules assumes crucial importance: regulations that contemplate severe sanctions for non-compliance with the rules can be considered more stringent, as the threat of such sanctions further incentivizes compliance with the rules. Finally, the degree of control exercised by the supervisory authorities is a further element to be taken into account: regulations that provide for strict control by these authorities can be considered more severe, as they limit the autonomy of companies and increase the risk of interventions by the competent authorities.

Based on these criteria, we can identify some differences between the countries considered:

- USA: the United States is characterized by broad and detailed legislation (Regulation AB and ABII, UCC Article 9, Bankruptcy Code, Securities Act, and Securities Exchange Act), which provides for high standards of transparency and disclosure. Regulatory oversight by authorities (the *SEC*) is quite stringent.
- Europe: the European Union has recently introduced specific legislation on securitization (EU Regulation 2017/2402 and 2021/557), which aims to harmonize rules and promote transparency. However, at the national level, some countries (such as Italy) retain a degree of autonomy in regulating certain specific aspects.
- Italy: Italy has securitization legislation (Legge 130/1999) that also applies to intellectual property, along with the Codice della Proprietà Industriale and the Testo Unico della Finanza (TUF). The Italian market is still developing and the legislation, while comprehensive, allows companies a degree of autonomy.
- China: China has securitization regulations (Securities Law, Securities Investment Fund Law, Administrative Measures for Asset Securitization) that also apply to intellectual property, along with the Intellectual Property Rights Law. The Chinese market is growing rapidly, but the regulations are constantly evolving, and regulatory oversight by authorities (the *CSRC*) is quite high.

While laws, regulations and directives exist, companies operating in the intellectual property securitization sector enjoy a degree of autonomy. For example, parties involved in a securitization transaction are free to negotiate the terms and conditions of the contract, always in compliance with applicable laws and regulations. Indeed, while autonomy exists, it is not unlimited: supervisory authorities such as the SEC in the US, ESMA at the European level and CONSOB in Italy, exercise constant control over the activities of companies, in order to ensure compliance with the rules and the protection of investors.

Category	USA	Europe	Italy	China
Primary Legislation	Regulation AB Regulation ABII Article 9 of the UCC Bankruptcy Code Securities Act Securities Exchange Act	Regulations EU 2017/2402 Regulations EU 2021/557 Directive 2014/26/EU Prospectus Directive MAR	Legge 130/1999 Codice della Proprietà Industriale (CPI) Testo Unico della Finanza (TUF)	Securities Law Securities Investment Fund Law Administrative Measures for Asset Securitization Intellectual Property Rights Law
Definition of Securitization	Process of transforming illiquid assets (IP) into liquid securities	Transfer of receivables (IP) to an entity (SPV) that issues securities	Assignment of receivables (IP) to a vehicle (SPV) that issues securities	Grouping of assets (IP) and use as collateral for the issuance of securities
Securitizable IP Rights	Patents, trademarks, copyrights, software, etc.	Patents, trademarks, copyrights, designs, etc.	Patents, trademarks, designs, copyright	Patents, trademarks, copyright
Requirements for Securitization	Compliance with Reg. AB and ABII, UCC Art. 9, bankruptcy and securities laws	Compliance with EU Reg. 2017/2402 and 2021/557, EU directives and regulations	Compliance with Legge 130/1999, CPI, TUF and EU Regulations	Compliance with securities, fund, securitization and IP laws
	TICA	D	T. 1	
Category	USA A suismuunt contract	Europe	Italy Written deed	United deed
Transfer of IP rights	registration (if applicable)	registration (if applicable)	transcription at competent offices	registration at competent offices
Guarantees on IP rights	Mortgage, security interest (UCC Art. 9)	Mortgage, pledge	Mortgage, pledge	Mortgage
Investor Protection	Asset segregation (SPV), disclosure (prospectus)	Asset segregation (SPV), transparency (prospectus)	Asset segregation (SPV), information (prospectus)	Asset segregation (SPV), information (prospectus)
Tax Aspects	Taxation of income from IP	Taxation of income from IF	P Taxation of income from IF	• Taxation of income from IP
Role of Financial Intermediaries	Investment banks, brokerage firms, originators, underwriters, trustees	Banks, asset management companies, originators, arrangers, servicers	Banks, financial intermediaries, originators, arrangers, servicers	Banks, brokerage firms, originators, arrangers, servicers

 Table 4.1: Regulations Comparative Analysis

Chapter 5 Further Challenges & Conclusion

Despite the main challenges related to the economic valuation of intellectual property and the diverse regulations across various parts of the world, the IP securitization ecosystem encounters further obstacles that hinder its scalability, requiring greater efforts and longer timelines compared to more common financing operations. The complexity in the economic valuation of intangible assets (Chapter 3) and the lack of a favorable regulatory framework (Chapter 4) represent a significant portion of these obstacles, but they are not the only ones. In this chapter, the additional challenges and potential solutions to overcome these obstacles are analyzed in order to promote the development of this innovative financial instrument. In general, factors that limit this type of financing can be identified in 5 categories:

- 1. Complexity in the economic valuation of intangible assets.
- 2. Limited intervention of regulatory authorities.
- 3. Low familiarity of intangibles by investors and financiers.
- 4. Significant transaction costs.
- 5. Difficulty in liquidating intangible assets.

These factors collectively contribute to a perception of increased risk and complexity, often deterring potential investors and financiers from engaging with IP securitization. Addressing these challenges is crucial for unlocking the full potential of IP securitization as a viable financing option.

5.1 Complexity in the EV of intangible assets

Difficulties such as the discrepancy between book values and market values, limited disclosure that restricts the amount of readily available information and the lack of a common valuation framework, make it challenging to assign a value to intangible assets. Context drives valuation and the lack of available data and precedents poses difficulties in valuing intangibles: many transactions involving IP are not publicly available or are not sufficiently detailed to attribute a specific value to an asset. Moreover, given the inherent subjectivity in intangible valuation, experts can arrive at extremely different yet reasonable valuations and, in the absence of a consistent valuation framework, comparing the reports of different experts remains a arduous task.¹ Currently, there is no single methodology for IP valuation and, given the cross-border nature of transactions involving intellectual property, interoperability between various jurisdictions could provide significant advantages. For this reason, guidelines like the *IVS (International Valuation Standards)* are internationally recognized, constantly updated, and used as a reference by valuation professionals.

Furthermore, since the community of valuation professionals with experience in the IP field is relatively small and concentrated in a few geographical areas, training programs are emerging to develop skills related to intangible assets: this is because the knowledge of professionals must be combined with that of other sectors to obtain a complete picture of the contribution of the asset in question. For example, in Singapore since 2016, the *Chartered Valuer and Appraiser (CVA)* program is recognized as the first business valuation certification in Asia that helps valuation professionals align their practices with the IVS.

Finally, to worsen the problem, intangible assets are almost invisible in company financial statements, a paradox considering they generate significant value. In particular, they are only accounted for in exceptional circumstances, i.e., when they generate costs or are closely linked to revenues. This lack of accounting representation distorts the perception of the real economic value of intangible assets, creating a *'blind spot'* for investors and financiers who rely primarily on financial data. This information asymmetry penalizes young companies in accessing financing, simply because their assets are predominantly intangible and incomplete accounting places them at a competitive disadvantage. In this regard, in its latest work plan, the *In*ternational Accounting Standards Board (IASB) has decided to include a research project on intangible assets to give greater prominence to these assets in man-

¹The different valuation approaches are described in detail in Chapter 3.

agement commentary on financial reporting, with the aim of providing potential investors with a more complete picture of the business.

5.2 Limited intervention of regulatory authorities

Regulatory authorities are tasked with supporting the stability of the financial system and require banks to hold a certain amount of capital to cover the risks taken. This obligation acts as a buffer to protect banks and ensures they have sufficient room to withstand market shocks. The standards that define capital requirements in the banking sector are based on international norms such as Basel $III.^2$ The amount of capital required by regulatory authorities is closely related to the perceived risks associated with both the loan itself and the underlying collateral. Basel III regulations also define the criteria for using physical and financial assets as loan collateral. Loans secured by certain types of collateral typically require the lender to hold less capital, as these forms of lending are perceived as less risky. However, banking regulatory authorities do not ease capital requirements for intangible assets for lending purposes. Consequently, while banks can grant loans secured by intangible assets, the capital requirements remain high, making such loans less attractive to borrowers due to interest rates similar to those of unsecured loans. Nevertheless, some forms of IP-secured financing might present a sufficiently low risk profile to justify more favorable regulatory treatment. A revision of banking regulations, though complex and requiring international coordination, could allow banks to reduce capital requirements for loans secured by intangible assets. Without such regulatory changes, it is unlikely that lending institutions will alter their policies. However, this situation creates opportunities for alternative lenders, such as debt funds, who can operate with greater flexibility. Insurers can also contribute by modifying the risk profile of financings through insurance solutions. This approach is particularly relevant in IP securitization, where insurance plays a key role in providing guarantees and reducing the perceived risk for investors.

²The Basel III accord, a collection of advisory guidelines for banking oversight, was developed by the Basel Committee on Banking Supervision (BCBS). This framework establishes global benchmarks for ensuring banks possess sufficient capital, can withstand economic downturns through stress testing and maintain adequate liquidity. Its primary objective is to reinforce bank capital structures by mandating higher minimum capital holdings, promoting the retention of highly liquid assets and limiting over-indebtedness. More information is available at the link: https://www.consilium.europa.eu/it/policies/basel-iii/

5.3 Low familiarity by investors and financiers

The inherently complex nature and difficulty in understanding intangible assets represent a significant obstacle to their integration into traditional financing models. The identification of such assets, the execution of thorough due diligence and the definition of contracts that regulate their rights, require considerable time and specialized expertise. Currently, the number of investors and specialized financial institutions willing to accept intangible assets as collateral for financing is still limited, which further restricts access to capital for companies that hold primarily such assets.

The legal complexity, combined with the difficulty of predicting and assessing the cash flow generation potential of intangible assets, deters traditional lenders from this type of operation. Often, decision-makers perceive intangible assets as risky simply because they are unfamiliar with them and do not possess the necessary skills to evaluate them correctly. This uncertainty, which derives from a lack of knowledge, clashes with established conservative lending practices that favor certainty and predictability. Consequently, commercial lenders have historically not considered intangible assets as adequate collateral for debt financing and, therefore, have accumulated little experience in providing capital against such assets. This lack of experience extends to many investors, particularly those operating in developing countries, where familiarity with this asset class is still limited.

To overcome these barriers, some countries are actively promoting knowledge and understanding of intangible assets among local lenders. This is achieved through educational initiatives, workshops and the use of specialized tools and databases, such as patent databases. The goal is to support the credit decision-making processes of regional lenders by providing them with the necessary skills to properly assess the potential of intangible assets. An emblematic example is the IP Finance Promotion Project, introduced in 2015 in Japan. This project has encouraged a number of regional financial institutions to develop initiatives focused on IP, promoting education and the development of specific skills among their employees. Interestingly, this project has catalyzed a shift in perspective among credit institutions, which have begun to incorporate a new view of IP into their decision-making processes. While previously the focus was primarily on quantitative information supporting the lending process, now the IP's strategic relevance is gaining increasing importance, as competitive strength and growth factors.

5.4 Significant transaction costs

The complex procedures related to the valuation of intangible assets, the execution of thorough due diligence and the necessity to register the resulting security interests, translate into significant financial burdens that hinder the widespread adoption of intangible asset financing. Although this sector is experiencing promising growth, it remains an emerging area characterized by limited transaction volumes compared to other, more established forms of financing. The inherent complexity of these operations, ranging from asset valuation to detailed due diligence³, results in higher costs and longer execution times, making such transactions less attractive to the parties involved.

The lack of standardized processes and the need to customize each transaction further contribute to the increase in overall costs. Consequently, transaction costs are often disproportionate to the value of the transaction itself, creating a significant obstacle for businesses.

Furthermore, the relative novelty of the sector limits the ability to leverage economies of scale and reduce costs through learning and process standardization. This poses a significant problem for lenders who base their business models on highly standardized products and economies of scale. For companies seeking financing secured by intangible assets, the upfront valuation costs and administrative expenses required for registration of security interests can be a significant deterrent. These costs, which must be incurred before the financing decision itself, increase the risk of sunk costs, reducing the attractiveness of this type of operation.

In order to overcome these obstacles, some countries have initiated efforts aimed at reducing transaction costs, offering subsidies for valuation and introducing tax incentives. However, despite these efforts, the overall costs of financing secured by intangible assets remain too high to be considered a viable option for many businesses, especially small and medium-sized enterprises (SMEs).

³In the context of IP securitization, due diligence plays a critical role. It is not simply a financial investigation, but a thorough analysis of the intangible assets that form the basis of the transaction. This process aims to create a detailed map of the intellectual properties, outlining its nature, scope of protection and strategic relevance to the company. It is essential to verify the ownership and validity of registrations with the competent authorities, examine any ongoing litigation or disputes and assess the cash flow generation potential of the assets. Accurate IP due diligence is essential to mitigate risks and attract investors, providing them with a clear and transparent view of the value and soundness of the securitized assets.

5.5 Difficulty in liquidating intangible assets

Before finalizing any deal, lenders must ensure the security of their investment, carefully assessing the potential disposal value of intangible assets proposed as collateral. This assessment is crucial for determining the maximum amount that can be lent or invested. However, the absence of a liquid secondary market for such assets, where intangible assets can be easily monetized, results in a significant discrepancy between the estimated value of the assets and the actual proceeds in the event of borrower default. The scarcity of past transactions and the lack of comparable data make it difficult to accurately predict the outcome of such situations, further increasing the perceived risk for lenders.

Although IP-based transactions are frequent in other contexts, such as licensing, their predominantly private nature limits the availability of useful information for lenders. The lack of transparency and the difficulty of accessing market data significantly complicate the valuation of underlying assets and their eventual liquidation in case of default, a particularly critical aspect for lenders who must protect their capital. This risk, linked to the difficulty of rapidly converting intangible assets into liquidity, dissuades many commercial credit operators from entering this market. Moreover, regulatory concerns related to the difficulty of recovering the value of intangible assets as collateral have led to the imposition of high capital adequacy requirements, which further increase financing costs.

Despite these challenges, significant efforts are being made to overcome these obstacles and make intangible asset financing more accessible. Specialized insurers, development banks and government initiatives are developing innovative mechanisms to distribute risk and encourage lenders to invest in this sector. Guarantee protection insurance, for example, offers coverage against the risk of asset illiquidity in the event of default, providing a guarantee of partial recovery of the invested value. Insurers, operating under a regulatory framework different from that of banks, can take a more favorable view of such risks, allowing them to offer more competitive financing solutions. Development banks, with their greater risk tolerance and ability to handle smaller transactions, can play a key role in catalyzing the market and providing financing to businesses that do not meet the requirements of traditional lenders. The public sector is also actively intervening to facilitate the IP monetization in the event of default, through the creation of guarantee funds and the development of specialized markets for intellectual property, which could increase asset liquidity and reduce risks for lenders.⁴

5.6 Conclusions

IP securitization represents an innovative financing method based on the use of intellectual property in an alternative way compared to traditional methods. Typically, IP rights are sold to third parties or licensed, but in this financing method, they are used as collateral based on the cash flows generated from their exploitation. Although similar to pure collateralization, it differs from it in the fact that the IP is separated from a patrimonial point of view from the parent company and transferred to an SPV, which however remains linked to the parent company as it is founded by the latter. This method requires the participation of many actors, both private and public, who synergistically join forces to make the transaction as transparent as possible between the various participants and potential investors. Although the IP used in these transactions ranges from more concrete elements such as patents to more abstract ones like trademarks and copyrights, the architecture of the process is quite standardized even if each transaction is unique, adapting to the characteristics of the originating company and the economic and strategic conditions of the IP in question: generally, the more the IP is closely linked to the company, the more complex the transaction becomes, as an error and/or failure could have a significant impact on the company and external investors. For this reason, due diligence plays a fundamental role and requires a lot of effort both in terms of time and economic resources from various actors involved.

Being an innovative financing method, its history is not very extensive but, considering the transactions carried out so far, it is possible to note that the majority of them have always obtained excellent/good market ratings for the bonds generated. A fundamental role is played by insurance companies (public or private) that support this type of investment, allowing investors greater confidence in the method and subsequent willingness to invest their capital. Representing a buffer in case the transaction proves unsuccessful, insurance companies are a must-have in every transaction, being able to guarantee the total (or partial) repayment of the capital lent. This represents an additional level of protection that adds to the IP royalties that are used as underlying assets in the bonds that are issued: this synergy translates into a boost in the credit rating by underwriters and the market. Good ratings translate into low interest rates, making securitization attractive also from

⁴WIPO and Intangible Asset Finance, Moving Intangible Asset Finance from the Margins to the Mainstream, p. 9-17. [1]

the point of view of the companies themselves, having to disburse less capital in interest to investors: in some circumstances, these rates turn out to be lower than those obtainable through traditional financing methods such as borrowing capital from banks.

Furthermore, IP securitization could be an excellent credit request solution for companies with solid intellectual property or that focus their business mainly on it. Consequently, large companies with trademarks registered worldwide and known through them or young small and medium-sized enterprises that focus their business on the continuous creation of IP and its trade are the categories mainly interested in this financing method. In particular, for SMEs, this method is advantageous also because it allows them to obtain economically more favorable conditions compared to traditional strategies, which for the same interest rate tend to require a solid credit history and specific levels of financial/performance indicators. For these companies, in fact, it is complex to have a solid credit reputation behind them given their young age and also maintaining particular indicators is complicated given the high amount of investment required in the company for its development.

Despite its significant potential, this financing method is not as widely used as one might expect. This is due to several issues that influence its complexity, consequently limiting its application. One of the main challenges lies in the ability to assess the economic potential of intellectual property. It is necessary to consider not only the pure market value of the IP itself but also its strategic value, both for the owning company and for competitors/potential buyers. The diversity in valuation methods and the lack of comprehensive education on valuation among professionals further worsens the problem. Given the absence of a universal method and the subjectivity of the property itself, underwriters in IP securitization struggle to obtain a uniform and objective valuation. To compensate for this uncertainty, the phenomenon of overcollateralization is not uncommon, providing an additional layer of protection for investors in case of default. However, this strategy could be limiting for companies due to the higher transaction costs and exposure required, which, especially for SMEs, might be too high to justify this financing method. Another metior issue concerns elements overmal to the IP but which constitute its

Another major issue concerns elements external to the IP but which constitute its underlying context, namely the regulatory framework. In particular, each country enjoys a certain level of autonomy in regulating this method, but there is a lack of a harmonized global regulatory framework that acts as a binding force and allows these transactions to be applied internationally in an effective and safe manner for all. Consequently, especially the more developed and mature markets such as the USA, England and recently Asia and China, offer more favorable conditions for securitization, having a clearer and more consolidated regulatory framework, a wider range of investors, and greater experience and familiarity with the method. Furthermore, different countries may also have different definitions (albeit minor) of patents, trademarks and copyrights, which create both confusion and potential legal risks for cross-border investors, ultimately undermining the comparison and valuation of assets in different countries. Although there are international conventions that define general principles, the application of these principles may vary from country to country depending on national laws, which also define collateral requirements and insolvency procedures.

All of this adds to the intrinsic complexity of the method itself. In a single transaction, several actors are involved and the risk of information loss is high. For this reason, the required due diligence is also high and fundamental to minimize information asymmetry between the parties involved. Mechanisms such as the creation of reserve liquidity funds, periodic reviews of IP cash flows and the appointment of a backup manager, are frequently included in transactions to ensure the highest possible level of protection and transparency. Compared to traditional securitizations, these methods are particularly important in IP securitization due to the greater difficulty in valuing and liquidating intangible assets compared to tangible ones.

In conclusion, despite the inherent challenges, IP securitization represents an unexplored horizon of opportunity for companies possessing relevant IP. The increasing importance of intellectual property in the global economy, fueled by innovation and digitalization, makes this financial instrument increasingly relevant and intriguing. Innovative companies, technological start-ups and even corporate giants, by unlocking the hidden value of their patents, trademarks and copyrights, could finance growth, research and development by effectively transforming them into liquidity. Investors, from their perspective, can simultaneously diversify their portfolios and support innovation. Certainly, challenges remain, but they can be overcome through collaboration among industry players, financial institutions and regulatory authorities. The adoption of standardized valuation methodologies, the implementation of investor protection mechanisms and the development of specialized trading platforms can make IP securitization more accessible and attractive. Furthermore, technological evolution, such as artificial intelligence and blockchain, could simplify the valuation and management of intangible assets, reducing costs

and increasing transparency. In this optimistic scenario, intellectual property securitization is not just a financing alternative, but a catalyst for innovation and economic growth. A way to transform ideas into value, to support companies that shape the future and to create a more dynamic and inclusive financial ecosystem. Essentially,

A bridge between innovation and finance, from creativity to capital.

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