



IP FINANCE IN BRAZIL

HOW THE EXPERIENCE OF RELEVANT
MARKETS CAN HELP BRAZIL MOVE
FORWARD

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We hope this partnership will grow even stronger, and that together we can turn IP Finance into a concrete reality, capable of driving startups, SMEs, and the innovation economy in Brazil.

Our sincere thanks!

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IP FINANCE IN BRAZIL

HOW THE EXPERIENCE OF RELEVANT MARKETS CAN HELP BRAZIL MOVE FORWARD

Bernardo Soares Teixeira Bemvindo
General Coordinator of Technology Contracts

Technical report produced within the scope of the working group called IP Finance.

Team Responsible for Preparing the Document:

Ângelo Santos Alves

Ana Beatriz Abreu Marinha

Luana Braga Pontes

Marco Antônio Castelo Branco Samuel

Marcelo Ricardo Alves da Costa Tredinnick

Patrícia Vivas da Silva Fontes

EXECUTIVE SUMMARY

Divided into industrial property and copyright, intellectual property (IP) is regulated in Brazil by specific laws, such as Law No. 9,279/1996 and Law No. 9,610/1998. Although the legal framework is solid, the use of IP assets as financial collateral is still incipient in Brazil, limiting their application as a tool for raising capital for companies, especially startups and technology-intensive businesses.

The concept of IP finance, which refers to the use of IP rights as collateral for financing, is already a consolidated practice in some economies but still faces challenges in Brazil. Among the main barriers are the difficulty of valuing intangible assets, the perception of high risk associated with such assets, and the lack of integration with banking regulations. In countries such as the United States, Canada, and nations in Asia and Europe, different approaches have been implemented to promote this form of financing. While the United States leads with a model organically developed by the market, other regions have adopted public strategies to support the use of IP as collateral.

This study aimed to consolidate the investigations carried out within the scope of the Working Group of the General Coordination of Technology Contracts, focusing on the relevant markets for the use of intangible assets as collateral in loans. The effort concentrated on mapping the main challenges faced by different countries, as well as the initiatives and strategies adopted to overcome regulatory, financial, and structural barriers.

The report also presents a historical perspective, highlighting examples such as the financing obtained by Thomas Edison in the United States in 1880, based on his patent for the electric light bulb. This emblematic case demonstrates the transformative potential of IP finance. In Asian countries, inspiring practices and structured models have proven effective in fostering the use of IP in financial operations. On the other hand, in Europe, regulatory challenges continue to hinder the widespread adoption of this modality.

Based on these elements, the report seeks to provide a detailed analysis of Brazilian legislation and the obstacles faced in the use of IP as collateral, exploring successful international experiences and the possible pathways to overcome these barriers in Brazil. This analysis is developed throughout three chapters, with recommendations aimed at unlocking the potential of IP finance in the country, promoting a more dynamic and competitive environment for startups and innovative companies.



LEGISLATION

Brazil has a comprehensive legal framework for the protection of IP, the main ones being the Industrial Property Law (Law No. 9,279/1996) and the Copyright Law (Law No. 9,610/1998). Although the legislation allows IP to be classified as movable property and permits its use as collateral, regulations are still largely based on concepts applicable to tangible goods. There are significant limitations, such as the absence of specific provisions regarding the formalization of guarantees for IP assets and technological challenges that hinder processes such as electronic registrations.

In the financial sphere, the Brazilian Civil Code regulates real guarantees, including pledge and attachment, allowing the use of intangible assets as collateral. However, the effective use of IP as collateral still faces practical barriers, such as the difficulty of valuation and the lack of a secondary market. In addition, international guidelines, such as those of Basel, limit the acceptance of intangible assets as collateral due to their high risk and low liquidity.

FINANCING MODELS

The report distinguishes different types of financing available for innovative companies in Brazil, which include:

- Traditional loans and financing: aimed at companies in advanced stages, generally requiring tangible guarantees.
- Economic grants: relevant for small and medium-sized enterprises, offering non-repayable resources for innovative projects.
- Equity investments: a higher-risk modality, aimed at companies with significant growth potential, including startups.

Organizations such as FINEP and BNDES play central roles in financing innovation in Brazil, offering resources for research, technological development, and support for startups. However, neither of them considers IP as an eligible asset for collateral.

The analysis shows that, although Brazil has robust initiatives for innovation financing, the integration of intangible assets into the financial system requires a more structured approach. This gap represents a strategic opportunity to modernize the Brazilian financial market and foster greater competitiveness in the global arena.

EXECUTIVE SUMMARY

INTERNATIONAL EXPERIENCE

International practices related to intellectual property-based financing were analyzed, focusing on key regions: North America, Asia, Oceania, and Europe.

NORTH AMERICA

UNITED STATES

The U.S. leads in patent accumulation but faces challenges in using intangible assets as collateral due to the rigidity of banking regulations, which require “readily marketable collateral.” This affects technology-based companies, while non-banking institutions provide alternative solutions.

CANADA

Canada has redirected its economy toward higher value-added sectors, such as knowledge-based companies. The country developed initiatives such as the IP Backed-Financing Fund, a \$160 million fund that supports innovative companies by allowing intellectual property to be used as collateral.

ASIA AND OCEANIA

CHINA

China has led initiatives in IP finance. Since the 1990s, government policies have encouraged the use of IP as collateral for loans, with particular emphasis on the national pilot project launched in 2013.

SOUTH KOREA

South Korea, a pioneer in IP finance since 2000, consolidated its model with the Framework Act on Intellectual Property of 2010. In 2020, IP-backed financing reached USD 1.98 billion, especially benefiting SMEs with accessible credit and reduced rates.

SINGAPORE

In Singapore, IP finance is promoted through the IP Financing Scheme (IPFS), with government support to subsidize valuation costs. Despite initiatives such as co-investments and venture debt programs, the acceptance of IP as collateral still faces challenges.

INDONESIA AND MALAYSIA

In Indonesia, GR 24/2022 regulates IP finance with flexible valuation approaches. In Malaysia, the IPFS program combines SME financing, subsidies, and the IP Valuation Model (IPVM), complemented by national strategies.

JAPAN

In Japan, IP finance is regulated under Article 96 of the Patent Act. Since 1995, around 260 companies have accessed JPY 16 billion in IP-backed financing.

INDIA

In India, the SARFAESI Act (2002) provides the legal basis for IP finance. Despite the legal framework, banks remain cautious due to valuation difficulties and uncertainties related to IP rights.

TAIWAN

In Taiwan, the government has encouraged IP finance. Despite the absence of specific legislation, contractual agreements and valuation services, supported by banks and specialized companies, have driven these practices, moving more than NT\$ 200 million since 2020.

AUSTRALIA

In Australia, the ESVCLP program encourages investments in early-stage companies. Although there is no specific legislation for IP finance, the private sector widely uses patents to attract financing.

EUROPE

UNITED KINGDOM

In Europe, the use of intellectual property as financial collateral is still incipient, with the United Kingdom standing out through initiatives such as NatWest and Inngot tools that enable IP-backed financing.

OTHER EUROPEAN UNION COUNTRIES

IP finance in Europe faces challenges due to the rigidity of the eurozone and the centralization of the banking market, which hinder the acceptance of intangible assets as collateral. The absence of robust secondary markets and the lack of standardized valuation practices reinforce banks' reluctance.

PATHWAYS AND CHALLENGES

Based on international experiences and the Brazilian context, it is possible to outline a set of concrete proposals to advance the development of IP finance, overcoming current barriers and adapting global solutions to the national framework:



STRUCTURAL AND LEGAL ADJUSTMENTS TO ENSURE SECURITY AND TRANSPARENCY IN TRANSACTIONS.

- Implement systems for recording IP rights, similar to those adopted by the USPTO, with defined deadlines for limitations and encumbrances, thereby increasing legal certainty in financial transactions.
- Create certificates consolidating information on all IP assets, enhancing transparency regarding their use and any existing restrictions.
- Facilitate out-of-court enforcement of IP-based guarantees, adapting legislation to allow faster realization of collateral without lengthy judicial proceedings.
- Encourage companies, especially SMEs, to register IP rights in their financial statements, valuing these assets as part of their equity.
- Conduct training sessions and workshops in partnership with professional councils to raise awareness of the strategic value of IP.



REGISTRATION IN FINANCIAL STATEMENTS.



RELIABLE AND ACCURATE VALUATION OF IP.

- Develop a centralized database of IP transaction values—similar to the widely trusted FIPE Table for used vehicles. Such a benchmark would reduce information asymmetry and provide a reliable reference for valuations, lending decisions, and insurance.
- Create international partnerships to incorporate advanced valuation practices and disseminate accessible models, such as AVMs.
- Encourage the creation of specialized firms dedicated to valuing intangible assets.



CREATION OF A MARKET IN WHICH IP CAN BE TRADED FOR FINANCIAL PURPOSES.

- Establish a national platform for IP asset trading, inspired by Petrobras' "Patent Showcase," connecting rights holders with investors.
- Provide institutional support to promote the use of IP in secondary markets, ensuring transparency and efficiency in transactions.
- Publish market data, such as average assignment and licensing values, to facilitate pricing and reduce information asymmetry.
- Create a dedicated fund coordinated by institutions such as FINEP and BNDES, focused on valuation, credit granting, and risk mitigation associated with the use of IP as collateral.
- Integrate INPI into the evaluation process, providing detailed and qualified information on the IP assets involved.
- Offer credit insurance mechanisms subsidized by the government, reducing risks and encouraging the use of intangible assets as collateral.
- Raise funds from international institutions, such as the New Development Bank, to expand the fund's financial capacity.



CREATION OF A SPECIFIC FUND FOR IP FINANCE.

INTRODUCTION

Intellectual property (IP) in Brazil is structured into two main branches: industrial property and copyright. Industrial property, regulated by Law No. 9,279, is administered by the National Institute of Industrial Property (INPI) and covers patents, utility models, trademarks, industrial designs, technology contracts, and geographical indications. Copyright, on the other hand, safeguarded by Law No. 9,610/1998 and managed by the National Library, grants authors exclusive rights over intellectual works such as literary and artistic creations, also extending to internet domains and intangible cultural expressions. Additionally, the Brazilian system recognizes *sui generis* intellectual property rights, which protect hybrid creations such as integrated circuit topographies, computer programs, plant variety protection, and traditional knowledge associated with genetic resources, thereby broadening the scope of protection for objects that combine features of both branches of IP.

IP Finance refers to the use of intellectual property rights as collateral or assets to obtain financing or loans, functioning as an additional means for companies to raise capital. Traditionally, the banking sector grants credit using tangible assets—such as real estate and machinery—as collateral. However, technology-intensive companies and startups, which hold most of their assets in intangible form, face barriers to accessing debt financing, as IP assets are rarely accepted as collateral by banks and financial institutions.

The difficulty in using IP assets as collateral is linked to valuation challenges and risk perception. The intrinsic characteristics of intangible assets, such as the risk of obsolescence and the complexity of pricing, make it difficult for creditors to assess their value and recovery potential in the event of default. Moreover, international banking regulations impose limitations on the use of such assets as collateral, further reinforcing financial institutions' reluctance to accept them. Nevertheless, several countries have been implementing local strategies to enable the use of IP as collateral, creating new financing opportunities. Interestingly, depending on the country, IP finance may be referred to as IP financing, IP-backed finance, IP-based finance, or IP financial system.

IP finance is being addressed in different ways around the world, reflecting varied stages of maturity and adaptation to each market's needs. While some countries have not yet begun discussions on the use of intellectual property as collateral, others are only starting to explore this path, and some have become international benchmarks for their advanced practices. Implementation also occurs in different forms: in some cases, governments created specific public bodies to facilitate this financing model; in others, public entities act as intermediaries; and in certain jurisdictions, specific banks were designated to support the use of IP as collateral. These consolidated examples already provide a solid foundation to promote the use of intangible assets in financing, facilitating their adoption in new contexts.

The survey of global experiences in using IP as collateral highlights a diversity of approaches, legislations, financing models, and amounts involved, which vary widely across countries. In the United States (U.S.), IP finance emerged organically, driven by market forces, becoming a distinct model, as it was the only country to adopt this practice without the need for public policies to promote it.

The first practical application of IP finance in the U.S. dates back to 1837, when trade secrets were used as collateral for a debt instrument involving a secret chocolate manufacturing process (IRAWATY, 2015). In 1880, Thomas Edison obtained a loan from J.P. Morgan Bank, using his patent for the electric light bulb as collateral (JACOBS, 2011; MILLARD, 1993). This financing was crucial for the founding of the Edison Electric Light Company and for advancing electrification projects, including the installation of electric lighting in several areas of Manhattan. The practice of using IP as collateral, which gained visibility with Edison, became increasingly common, especially in the technology sector, consolidating itself as a relevant and innovative financing tool.

In other countries where IP finance is present, the initiative is generally led by the public sector, with the aim of opening the market and fostering the use of intellectual property as collateral. Canada stands out with an interesting approach due to its financing structure, promoting a verticalized process within the Business Development Bank of Canada (BDC), although IP finance has gained visibility there more recently. Asian countries, in turn, offer an inspiring example for other nations seeking to implement IP finance, with different structured models to support IP-based financing. Europe, however, faces international regulatory challenges that hinder the use of IP assets as loan collateral. Still, in all regions, startups with a strong technological focus continue to attract financing, whether through public support or private investment.

This study aims to consolidate the investigations carried out within the scope of the Working Group of the General Coordination of Technology Contracts (CGTEC), focusing on relevant markets for the use of intangible assets as loan collateral. The effort concentrated on mapping the main challenges faced by different countries, as well as the initiatives and strategies adopted to overcome regulatory, financial, and structural barriers. By addressing different stages of implementation, this study seeks to provide a broad view of global practices, highlighting successful experiences and lessons learned that can contribute to the development of similar policies and mechanisms in other regions, including Brazil.

Chapter 1 explores the use of Intellectual Property as collateral for financing in Brazil, beginning with an analysis of the applicable legislation. In the legislation section, the regulations governing IP and copyright in Brazil are examined, as well as aspects of financial legislation essential to contextualize the use of IP in credit operations. Next, it presents an overview of the main types of financing available to companies, with particular emphasis on the challenges faced in the Brazilian context. International experience is analyzed in Chapter 2, with an investigation of practices in the U.S. and Canada, Asia and Oceania, and Europe, revealing how different regions have structured the use of IP in financial operations. Chapter 3 examines the challenges and pathways for expanding IP finance, based on economic theories and practical lessons that provide recommendations for unlocking IP finance in Brazil. Finally, the conclusion summarizes the key issues and presents perspectives for the future use of IP as a financing tool.

This chapter addresses different aspects related to the use of IP as collateral for financing. It begins with an analysis of the legislation and legal framework already in place in Brazil concerning the protection of IP, such as the Industrial Property Law, the Copyright Law, and the Brazilian Civil Code. It then presents the types of financing available to companies in Brazil and highlights the role of the main public financing organizations in the country, the Funding Authority for Studies and Projects (FINEP) and the Brazilian Development Bank (BNDES).

1.1. BRIEF OVERVIEW OF LEGISLATION

Law No. 9,279, of May 14, 1996, known as the Industrial Property Law (LPI), protects intellectual creations directed toward industrial, commercial, and service activities, in addition to regulating competitive relations. This law covers legal mechanisms for the appropriation of intangibles, including trademarks, patents, industrial designs, and geographical indications. In contrast, Law No. 9,610, of February 19, 1998, called the Copyright Law (LDA), safeguards artistic, literary, and scientific creations, granting copyright and related rights. Software, in turn, benefits from specific protection under Law No. 9,609, also of February 19, 1998.

The Brazilian legal framework also includes *sui generis* protections, such as Law No. 9,456, of April 25, 1997, which establishes the Plant Variety Protection Law to protect new hybrid plant species resulting from breeding programs. Law No. 11,484, of May 31, 2007, protects the topography of integrated circuits, while Law No. 13,123, of May 20, 2015, known as the Biodiversity Law, regulates access to genetic resources and associated traditional knowledge, with the aim of promoting sustainable economic exploitation and preservation of biodiversity.

The LPI states, in Article 5, that industrial property is considered movable property. The Brazilian Civil Code provides for three types of real guarantees: pledge (*penhor*), antichresis (*anticrese*), and mortgage (*hipoteca*), with the pledge being voluntarily applicable to movable assets. Since IP is classified as movable property, it may be used as collateral in financial transactions, falling under the category of pledge of rights, in accordance with Section VII of the Civil Code. In addition, judicial attachment (*penhora*) is possible, whereby the debtor's assets may be seized and auctioned in the event of default to settle debts. The LPI, in Article 136, already allows the registration of limitations or encumbrances on applications or registrations, enabling the formalization of guarantees. Thus, the Civil Code allows the use of industrial property as collateral both through pledge and attachment, opening pathways for its use in loans and financing.

With regard to copyright, Article 3 of the LDA establishes that copyright is classified as movable property, which allows, as in the case of industrial property, the possibility of using these rights as collateral in financial transactions through pledge or attachment, as provided for in the Civil Code. However, unlike industrial property, there is no provision for annotating encumbrances in copyright records at the National Library or the Copyright Office of the Ministry of Culture. A unique characteristic of copyright in Brazil is that protection does not require formal registration. While this ensures broad and automatic protection, it represents an obstacle to the use of copyright as collateral, since the absence of registration may hinder the valuation and formalization of guarantees in financing operations.

Law No. 6,830, of September 22, 1980, regulates the judicial collection of public debt (*dívida ativa*) owed to the Treasury and establishes complementary guidelines. In Article 11, the law defines a priority order for the seizure and attachment (*penhora*) of assets. This hierarchical order begins with money and proceeds to government bonds, real estate, vehicles, and other categories, until reaching the final level of goods, rights, and shares. The intent of this legislation is to protect the most valuable assets of companies, ensuring that enforcement is carried out efficiently and prioritizing assets with higher liquidity and strategic value.

Although it is possible to record any limitation or encumbrance on an industrial property application or registration, such registration is not mandatory in cases of pledge (*penhor*), being required only for judicial attachment. This procedure, which involves the attachment of assets, tangible or intangible, resembles the provisions of Brazilian Law No. 9,532, of December 10, 1997, specifically Articles 64 and 64-A, which address the listing of assets (*arrolamento de bens*) prior to enforcement. Brazilian legislation goes further by allowing the interested party, as provided in Article 64, to request from the public registry authority a detailed evaluation of the listed assets, ensuring the determination of a fair value, whether for tangible or intangible assets.

During the 2000s, Brazil had a legal history of reversals of trademark attachment, with courts in several regions of the country arguing that attachment should be considered a last resort and, therefore, refusing to accept trademarks as debt collateral (BARBOSA, 2005). Over time, however, judicial understanding gradually consolidated in favor of allowing attachments, reducing the incidence of reversals.

Law No. 14,711, of October 30, 2023, known as the “Legal Framework for Guarantees” (*Marco Legal das Garantias*), introduced significant advances in the rules governing credit and the use of guarantees in Brazil, including non-judicial enforcement measures for credit recovery. Among its main improvements is the possibility of using the same asset as collateral for more than one loan, expanding flexibility in the use of assets for obtaining credit. The new law also establishes improved rules and conditions for the enforcement of mortgages, pledges, and the transfer of real estate for debt settlement. However, no specific changes were implemented regarding the use of intangible assets as collateral in credit operations.

In this context, it is worth noting that IP assets are already used in Brazil as guarantees in labor indemnities and in tax, bankruptcy, and judicial reorganization proceedings. And although it is not yet a frequent practice in the country, there is no legal impediment to the use of intangible assets as collateral in financing operations.

In Brazil, the near absence of intangible assets as collateral in loans or financing is largely due to the adoption of international banking recommendations by monetary authorities. This is a global challenge, not restricted to the local context. To understand the reason behind banks’ reluctance to accept intangible assets as collateral, it is essential to analyze the structure of international regulations, especially the Basel guidelines.

Global financial regulation is coordinated by the Bank for International Settlements (BIS), an international financial institution created in 1930 that brings together several committees: the Basel Committee on Banking Supervision, the Committee on the Global Financial System, the Committee on Payments and Market Infrastructures, and the Committee on Markets. The Basel Committee on Banking Supervision (BCBS), in particular, is responsible for setting Basel III standards, which regulate banking prudence and financial risk management. In addition to promoting coordination among central banks and other monetary authorities, the BIS plays an essential role in maintaining global monetary and financial stability, fostering a more robust and secure financial system for international markets.

The Basel Committee on Banking Supervision aims to strengthen banking regulation, supervision, and best practices to promote global monetary and financial stability. The BCBS discusses and formulates recommendations for effective prudential regulation, establishing core principles for banking supervision.

These principles serve as the basis for assessing the effectiveness of supervision in each country, aiming to harmonize regulation among its members and thus foster fair competition among international banks. The first Basel Accord, known as Basel I, was introduced in 1988 and revised in 1996 to incorporate a minimum capital requirement to cover credit risk. In 2004, a new revision resulted in the creation of Basel II, which established three fundamental pillars: the first defines capital requirements for credit, market, and operational risks; the second covers the capital adequacy review process conducted by supervisors to ensure compliance with prudential requirements; and the third promotes market discipline through transparency and disclosure of financial information.

Following the 2008 financial crisis, the BCBS created Basel III, a set of guidelines launched in 2010 aimed at mitigating risks and preventing the spread of systemic crises to the real economy. Basel III requires financial institutions to increase their capacity to absorb unexpected losses, focusing on improving both the quality and the quantity of capital. Brazil, as one of the 45 BCBS members, has been implementing these guidelines since 2013 through regulations established by the National Monetary Council (CMN) and the Central Bank (BC).

In Brazil, CMN Resolution No. 4,966, of November 25, 2021, is the most recent regulation defining the rules for the classification and measurement of financial assets, in alignment with international standards IFRS (International Financial Reporting Standards) 9 and CPC (Accounting Pronouncements Committee) 48 for risk assessment in financial operations. This resolution introduced a new approach for Brazilian institutions by changing the calculation of provisions for doubtful debts, improving the accounting of expected losses in credit portfolios, and considering the financial guarantees offered.

To this end, the analysis of expected loss associated with credit risk must now consider minimum parameters such as liquidity and the Probable Net Present Value of Realization (Valor Presente Provável de Realização – VPPR) of collateral. The resolution also innovates by including conditions related to the economic situation, which directly influence the VPPR of guarantees. The VPPR estimate must be carried out at the fair value of guarantees or collateral, taking into account the expected costs and timeframes for enforcement, sale, and receipt of such assets.

When it comes to intangible assets, especially those related to industrial property, several characteristics hinder their use as collateral for loans or financing. Among the main limitations are the complexity of valuing these assets, due to the lack of uniform valuation standards, and the absence of a secondary market, which reduces their liquidity and, consequently, their effectiveness as collateral. Given these barriers, intangible assets generally do not meet the capital eligibility criteria under Basel recommendations, which increases the credit and market risks associated with their use as collateral.

As a result, intangible assets used as collateral in financial operations, such as loans or financing, are generally not considered in the calculation of expected credit losses. Thus, these assets do not constitute reserves that banks must maintain to ensure their solvency and resilience in the face of financial crises or economic shocks.

Although granting credit based on industrial property is complex in Brazil, a notable case occurred in 2020. In this example, a technology company in the tourism sector used its trademark as collateral to obtain a new round of financing. In the valuation process, the registered trademark and associated domains were analyzed, applying a brand recreation cost approach. The valuation resulted in an estimated value of approximately BRL 38 million for this intangible guarantee, demonstrating the feasibility of this model in specific cases.

As an incentive for the development of small businesses, Decree No. 10,780, of August 25, 2021, established the National Credit Guarantee System (Sistema Nacional de Garantias de Crédito), aimed at facilitating access to credit and financial services for micro and small enterprises. Complementarily, Technical Pronouncement No. 04 of the Accounting Pronouncements Committee, dated November 5, 2010, defines the accounting treatment of intangible assets, requiring detailed measurement of their book value and specific disclosures regarding these assets.

1.2. TYPES OF BUSINESS FINANCING

Innovation plays a crucial role in differentiating a company from its competitors, and intellectual property amplifies the returns on investment by protecting this differentiation and creating a sustainable competitive advantage. In many smaller innovative companies, profits are insufficient to internally finance their innovations, which leads them to seek external financing.

The economic logic behind external financing lies in balancing risk and return. It is essential for the company to understand the potential returns that its IP may generate in the event of success, in order to properly align its exposure to risk. However, if the venture is unsuccessful—whether due to obstacles in granting rights or lack of market demand—the company may struggle to recover the investment, resulting in a “sunk cost” that compromises its repayment capacity. Financial institutions that provide this type of financing conduct detailed analyses, such as calculating the Value at Risk (VaR), and follow strict credit policies to mitigate the risks involved. The importance of IP varies according to the company’s stage of development and the competitive structure of the market in which it operates.

One option for external financing is a loan. In this case, companies may offer real or personal guarantees, or even a surety, as collateral. Loans do not require a specific allocation of resources, allowing the borrower to use them according to its needs and priorities. However, costs are generally higher, and grace periods before repayment begins are shorter compared to traditional financing.

Financing differs from loans mainly in its specific purpose (BACEN, 2024b). In financing operations, the borrower must inform the financial institution of the intended use of the resources. This type of operation may occur through working capital lines or sectoral fund financing. In the latter case, conditions are generally more favorable, as they involve public development agencies such as BNDES and FINEP. Both loans and financing are aimed at companies in more advanced stages of development, which operate with reduced risks compared to other forms of fundraising.

Economic grants, on the other hand, are directed toward higher-risk operations and are particularly relevant for early-stage companies, such as Small and Medium-Sized Enterprises (SMEs), although they are not limited to them. This type of funding is non-repayable, provided by government agencies or third-sector entities, with the aim of fostering scientific, cultural, or artistic initiatives. As described in FINEP’s Grant Manual, grants are essential in situations where “certain needs are not attractive to the private sector, or where there is interest but development is hindered due to significant deficiencies in factor markets—primarily financial and human—which require complementary public action” (FINEP, 2010).

To access this type of financing, financial institutions usually require a minimum capital contribution from the applicant company in the form of joint investment ratios, with the goal of mitigating risks (IPOS INTERNATIONAL, 2021). For example, if the minimum capital contribution requirement is 3:1, for every \$3 invested by the institution, the company must contribute \$1. In other cases, an increase in the company’s share capital may be required to demonstrate greater commitment and reduce associated risks. An essential feature of economic grants is the mandatory accountability and reporting accountability, especially since certain grants of this type depend on meeting specific targets or providing detailed proof of the resources disbursed.

Economic grants are practiced in several countries and recommended by the World Trade Organization (WTO). According to welfare economics theory, an efficient subsidy policy aligns private benefits and costs with social ones, contributing to reducing market failures and promoting an increase in the overall economic welfare of society (WIPO, 2006).

In Brazil, FINEP is the main agent of economic grants for innovation, with the goal of fostering innovation and increasing the competitiveness of national companies. Its activities began in 2003, based on Law No. 10,973 of December 2, 2004, known as the Innovation Law, and Law No. 11,196 of November 21, 2005, known as the Lei do Bem (Good Law) (FINEP, 2010). The resources come from the National Fund for Scientific and Technological Development (FNDCT) and are operated in accordance with WTO rules.

One of FINEP's main grant programs is "FINEP Mais Inovação." In 2024, within the framework of the New Industrial Policy, FINEP Mais Inovação launched 11 calls for Economic Grants, totaling BRL 2.18 billion. Of this amount, 10 calls are directed to companies and 1 call to Science and Technology Institutions (STIs) in the health sector. By 2028, a total of BRL 66 billion will be allocated in reimbursable and non-reimbursable modalities. FINEP will be responsible for BRL 41 billion, while BNDES will provide BRL 25 billion (ABES, 2024). Equity investment is recommended in scenarios where the amounts involved are high and the risk of the operation is considered moderate. In this modality, financial institutions or investors inject capital and become part of the company's equity, with the objective of increasing the value of their investment, generating returns through dividends, or achieving both. The most common sources for this type of financing include angel investors, consortia, venture capital firms, and private equity companies, among others.

In Brazil, BNDES participates in equity investment operations through the BNDES Participações S.A. (BNDESPAR) program, providing financial support both in direct and indirect operations to boost companies through equity instruments such as investment funds, debentures, and shares. BNDES supports businesses at different stages of development, ranging from startups and early-stage companies to fast-growing (Growth Stage) businesses and more consolidated organizations, such as emerging and mature companies.

The financing modalities mentioned above present distinct characteristics, adapting to different stages of business development. However, these forms of financing are not mutually exclusive and may be combined depending on the company's specific needs. For example, debt financing can be complemented with equity investments, especially when partners lack tangible or personal guarantees. A common practice in Brazil, directed at strategic sectors and supported by public policies, is the integration of debt financing with economic grants, which provide non-repayable resources to stimulate projects in priority areas.

The attractiveness of investments through Intellectual Property depends on two fundamental factors: the existence of barriers to entry for potential competitors and the freedom to operate the intangible asset or IP (IPOS INTERNATIONAL, 2021). Investor interest increases in companies capable of protecting their IP and thus creating a market barrier. It is essential to assess at what stage the innovation is in order to establish strong IP protection. Moreover, freedom to operate is equally crucial, as the investor needs to know whether there are future risks—such as litigation, patent invalidity, or copyright issues—that could threaten the exclusivity of the IP. Thus, legal certainty in establishing IP becomes a critical factor for investors to feel confident in financing the company, especially in the case of intangible assets such as literary works, where issues such as plagiarism or copying may arise.

1.3. BUSINESS FINANCING IN BRAZIL

To address innovation financing in Brazil, it is useful, for didactic reasons, to separate intellectual property financing into two distinct categories: financing of Science, Technology and Innovation (ST&I) for the creation of intangible assets, and IP-based financing using IP as collateral. Research funding aimed at developing new technologies, such as patents, industrial designs, and plant varieties, is already consolidated in the country. In this sense, there is an operational market, with supply and demand for credit as well as established rules. However, in Brazil, the use of intangible assets—especially industrial property—as collateral for obtaining credit is practically nonexistent and faces barriers to its development.

Financing for the creation of ST&I in Brazil is promoted by both public and private entities. However, most of the resources and the most favorable credit conditions for science and technology come from federal public funding, particularly through programs linked to the National Fund for Scientific and Technological Development (FNDCT). In the public sector, credit and financing for innovation are offered through BNDES, FINEP, sectoral innovation programs, economic grants, as well as initiatives from states, municipalities, and research support foundations.

Private financing for innovation, on the other hand, acts as an important alternative to public resources, including venture capital investments and contributions from investment funds, accelerators, incubators, angel investors, among others. These private sources diversify options for financing innovation, especially in scenarios where public funding may be insufficient or less accessible.

The National Fund for Scientific and Technological Development (FNDCT) is the main source of funding for innovation and scientific and technological development in Brazil. Created with the mission of fostering ST&I and driving socioeconomic development, the FNDCT has undergone several reforms over the years and currently operates with 16 linked sectoral funds, of which 15 are active. Among them, 13 are directed at specific sectors such as health, biotechnology, agribusiness, oil, energy, mining, aeronautics, space, land and water transport, water resources, and information technology, in addition to one fund focused on the Amazon region. Besides the sectoral funds, there are also two transversal ones: the Fundo Verde-Amarelo, which promotes interaction between universities and companies, and the Infrastructure Fund, aimed at strengthening the infrastructure of Scientific and Technological Institutions, without ties to a specific sector.

These sectoral funds aim to improve the allocation and management of public resources destined for strengthening the ST&I system. To achieve this, they provide stable financing, adopt an innovative management model with the participation of different social segments, and promote interaction between research centers, universities, and the productive sector, thereby increasing synergy among these actors.

The revenues that feed the FNDCT are diverse, including royalties from oil and natural gas production, contributions from the CIDE (Contribution for Intervention in the Economic Domain), as well as resources from the National Treasury, among other sources. This diversified financing model seeks to ensure a stable resource base to sustain technological development and innovation in Brazil (FINEP, 2024c).

The management of the FNDCT is structured collaboratively, involving a board of directors, a fund coordination committee, the Ministry of Science, Technology and Innovation (MCTI) through FINEP, and specific management committees for each sectoral fund. The operation of the FNDCT is carried out by FINEP in partnership with the National Council for Scientific and Technological Development (CNPq), both acting as funding agencies for ST&I financing.

The main innovation financing agents in Brazil are FINEP and BNDES, both federal agencies. Within the context of the FNDCT, FINEP plays a central role in both the management and the execution of development programs, while CNPq complements these actions, especially in supporting scientific research. In this way, FINEP and CNPq work in synergy to foster scientific and technological development in the country.

FINEP, a public company linked to the MCTI, acts as the executive secretariat of the FNDCT, assuming administrative, budgetary, financial, and accounting responsibilities for the fund. Covering the entire chain of scientific and technological development, FINEP provides support ranging from basic research financing to final product support. Resources are allocated through three types of support: non-reimbursable funding, reimbursable funding, and equity investment.

Non-reimbursable funding is directed to scientific institutions and cooperation projects between STIs and companies, as well as economic grants for companies. Reimbursable funding, in turn, requires repayment through loans and is aimed at technological development projects within companies. In the equity investment modality, FINEP invests directly in innovative companies, becoming part of their share capital or participating in investment funds authorized by the Securities and Exchange Commission of Brazil (CVM).

To distribute non-reimbursable resources, FINEP uses various instruments, such as public calls—open selection processes for qualified applicants, based on predefined criteria; invitation letters, directed at leading institutions in the field of innovation; and commissioned projects, designed to meet specific public policy demands. These instruments are made available directly or through accredited financial agents, as well as regional and state partners.

FINEP classifies companies by size based on their Gross Operating Revenue (GOR) from the previous year, as follows (FINEP, 2024j):

- Micro and Small Enterprises: GOR below BRL 4.8 million.
- Small Enterprise: GOR between BRL 4.8 million and BRL 16 million.
- Medium Enterprise I: GOR between BRL 16 million and BRL 90 million.
- Medium Enterprise II: GOR between BRL 90 million and BRL 300 million.
- Large Enterprise: GOR above BRL 300 million.

These categories allow FINEP to adapt its financing policies to the specific needs of each company size, fostering the development of different market segments.

FINEP offers a wide range of programs and financial products to support companies and other institutions, including civil associations, universities, entrepreneurs, and various actors within the science, technology, and innovation system. A significant share of these programs is especially aimed at small and medium-sized enterprises, addressing their specific development needs.

Among the programs targeted at startups, the “Finep Startup” program stands out, designed to support emerging technology-based companies with high growth and return potential, helping them overcome the challenges of early operating stages. FINEP’s support aims to strengthen the National Science, Technology, and Innovation System by sharing risks with the private sector and promoting the introduction of new technologies and business models into the Brazilian market. The Finep Startup program is part of a broader set of FINEP initiatives that adapt to the maturity stage of each technology-based startup, providing specific financing for each stage of development (FINEP, 2024r).

In addition to Finep Startup, FINEP also offers other programs for startups, such as “Centelha,” “Mulheres Inovadoras,” “Espaço Finep,” “Tecnova,” and Economic Grant calls. Specifically for startups in the automotive sector, FINEP has allocated up to BRL 44 million, pooling resources from different programs to foster innovation in this strategic segment (FINEP, 2024r).

FINEP also has a specific program called “FINEP Intellectual Property,” aimed at supporting feasibility tests for new products, processes, and services based on intellectual property assets developed by Science and Technology Institutions (STIs). Operated directly by FINEP with resources from the FNDCT, the program uses the modality of economic grants to provide this support. To access the funds, the STI must undergo an initial eligibility and financial capacity assessment. Once qualified, the project proceeds to a merit analysis, which determines the feasibility and impact of the project. The total amount made available by the program is BRL 75 million (FINEP, 2024a), focusing on projects that meet proof-of-concept criteria and other activities that demonstrate the technical and economic feasibility of the asset, in addition to fitting within an appropriate level of technological maturity.

FINEP encourages the generation and commercialization of intellectual property by Brazilian companies as a result of the projects, research, and innovation programs it supports. Although it provides support, FINEP does not assume ownership or co-ownership of the IP generated, nor does it interfere with confidentiality agreements or licensing terms, which must be negotiated by the parties involved. Additionally, FINEP signed an agreement with INPI to support the FINEP Intellectual Property program through periodic courses on industrial property offered to various institutions.

FINEP also provides a Guarantees Manual (FINEP, 2024b), which outlines guidelines on issues and procedures related to guarantees. In 2024, the document listed 11 eligible assets for guarantees, encompassing only real or personal property, and it allows the combination of different types of guarantees within the same operation, provided that the rule of cumulativeness is respected. However, intellectual property—such as a patent—is not included in this list, which prevents its use as collateral in credit operations. This restriction represents a significant obstacle to the use of IP as collateral for financing.

BNDES

In addition to FINEP, BNDES is another major public institution for innovation financing in Brazil, with broader operations and a significantly larger volume of credit granted. Its resources come from the Workers’ Assistance Fund (FAT) and its own equity (BNDES, 2024a). BNDES, a federal public company linked to the Ministry of Development, Industry, Trade and Services (MDIC), is the main instrument for long-term financing and investment across various sectors of the Brazilian economy. The BNDES system is composed of three entities: BNDES itself, its subsidiary BNDESPAR, which operates in the capital market, and FINAME, responsible for promoting the production and commercialization of machinery and equipment.

Compared to FINEP, BNDES has substantially broader coverage and a much larger volume of resources. The main source of BNDES funding is FAT, which accounted for 58.5% of the total in 2024, although the minimum required percentage is 28%. The second largest source is the institution’s own equity, contributing 22.2% of resources, totaling 80.7% of the bank’s funding sources. By early 2024, the FAT balance in the BNDES system had already reached BRL 425.8 billion (BNDES, 2024a).

Among the various sectors served, BNDES has financing lines specifically aimed at innovation. To define innovation, the bank adopts the concept from the Oslo Manual (3rd edition), described in OECD (1997), which characterizes it as “the implementation of a new or significantly improved product (good or service), process, new marketing method, or new organizational method in business practices, workplace organization, or external relations.” BNDES’s innovation financing lines and programs are structured around investments in innovation and technology diffusion, with the goal of fostering capacity-building and the development of innovative environments.

The main BNDES program in this area is “BNDES Mais Inovação”, which offers more favorable conditions compared to other financing lines and covers companies of all sizes and sectors of the economy. Currently, the volume of resources allocated to this program amounts to BRL 8.4 billion [AGÊNCIA BNDES DE NOTÍCIAS, 2024].

In addition to “BNDES Mais Inovação,” the bank supports innovation through direct investments, including equity participation and investments via funds, in which it acts as an investor. Another significant program is “BNDES Garagem,” focused on the development and encouragement of entrepreneurship, with an emphasis on startups. Additionally, BNDES provides non-reimbursable resources to foster collaboration between universities and companies through FUNTEC (BNDES, 2024b).

Unlike FINEP, BNDES does not have exclusive lines dedicated to intellectual property. However, it allows the use of the “BNDES Card” to cover expenses related to the regularization of IP assets, providing an alternative to support the management of these assets within the business context.

BNDES operates in the credit market through both direct and indirect support, serving its clients directly or through accredited financial institutions. In indirect operations, financing and credit analysis are carried out by the accredited institution, which sets the criteria for financing and assumes the credit risk, while respecting the parameters and limits defined by BNDES. The indirect modality is divided into two categories: automatic and non-automatic.

In the automatic modality, no prior evaluation by BNDES is required. After analysis by the accredited institution, BNDES only approves and releases the resources, with an operational limit of up to BRL 150 million (BNDES, 2024d). Products such as “BNDES Finame” and the “BNDES Card” are examples of automatic indirect support. In the non-automatic modality, the accredited institution submits the request for evaluation and approval by BNDES, with a minimum value of BRL 20 million.

Direct financing is intended for operations above BRL 20 million (BNDES, 2024d). In this modality, the company must be accredited by BNDES to access credit. The product “BNDES Finem” directly finances investment projects aimed at strategic sectors of the economy, providing a robust source of resources for large-scale initiatives.

From January to June 2024, BNDES disbursed BRL 49.301 billion, of which BRL 11.234 billion went to industry, BRL 9.809 billion to agribusiness, BRL 18.623 billion to infrastructure, and BRL 9.635 billion to commerce and services (BNDES, 2024e). In terms of company size, BRL 28.852 billion were disbursed to large companies, BRL 13.579 billion to medium-sized companies, BRL 5.633 billion to small companies, and BRL 3.237 billion to microenterprises. Meanwhile, spending through the “BNDES Card” from January to June 2024 amounted to BRL 269 million, corresponding to 0.5% of the bank’s disbursements in the period.

Within BNDES, the rules for financing guarantees vary depending on the type of operation. In indirect operations, accredited financial institutions are responsible for defining and requiring guarantees. In direct operations, real guarantees, personal guarantees, or a combination of both are accepted. However, intellectual property is still not considered an eligible asset for guarantees.

In response to the difficulties faced by individual entrepreneurs, self-employed truck drivers, and micro, small, and medium-sized companies in meeting guarantee requirements, BNDES created the “BNDES FGI” — a product that complements the guarantees offered, increasing the chances of approval and facilitating access to better financing conditions.

Additionally, with the goal of strengthening investment in research and development (R&D) in the country, the Federal Government launched in 2023 the “Nova Indústria Brasil” (NIB) program (MDIC, 2024a). This program seeks to raise Brazilian industry to new levels of innovation and development, promoting increased productivity, exports, environmental sustainability, and competitiveness. The program establishes strategic actions distributed across six main missions to be executed over the next ten years. By 2024, more than BRL 78 billion had been made available through BNDES and FINEP credit lines. Complementing public sector efforts, private agents such as the Brazilian Company of Industrial Research and Innovation (EMBRAPII) also participate in implementing this policy, strengthening the innovation and industrial development ecosystem.

This chapter presents an analysis of international practices related to intellectual property-based financing, focusing on key regions: North America, Asia, Oceania, and Europe. It is observed that each country is at a different stage in the implementation of the IP Finance system, which in turn has its own characteristics in each context. Although this system is more developed in the United States and in some regions of Asia, all the countries studied already consider the possibility of using intangible assets as loan collateral, showing that the system is indeed evolving worldwide.

2.1. NORTH AMERICA

UNITED STATES OF AMERICA

The American market is one of the most advanced in the world. Historically, the United States has led in the number of accumulated patents. However, it is worth noting that Asian countries currently file the largest number of new patent applications, with accelerated growth rates in this field (WIPO, 2022). That said, it is important to emphasize that, just as the U.S. innovation system has been historically developed—resulting in one of the largest patent portfolios in the world—the commercialization and use of these patents, as well as other intellectual property assets as collateral for financing, have long been a recurring practice, albeit with specific characteristics.

One of the largest examples of patent transactions in the U.S. was Google's acquisition of Motorola Mobility in 2012 for USD 12.4 billion, in which Motorola's portfolio of 17,000 patents accounted for 45% of the total acquisition value, being valued at USD 5.5 billion (FIERCE NETWORK, 2012). Several other transactions involving technology-based companies and patent portfolios have also occurred in the U.S. (NGUYEN, 2018). These examples reflect the importance of patents for the business model of technology-oriented companies. This growing value of patents is further supported by the increase in patent applications across all regions of the world, including the U.S. (WIPO, 2022).

Although intellectual property—especially patents—plays a key role in differentiating companies in the U.S. and globally, the American banking system still shows resistance to using patents as collateral or even considering them in risk-reduction calculations for financing. This type of asset is not included in the list of eligible guarantees by banks. According to NGUYEN (2018), the U.S. faces significant underutilization of patents as financial guarantees, and the authors investigate the puzzle behind this underuse despite the potential value of these assets.

In the U.S., secured transactions are regulated by Article 9 of the Uniform Commercial Code (UCC), which provides guidelines for secured transactions, except in the case of leasing. Each U.S. state has the freedom to adopt Article 9, which establishes the rules for a creditor to register assets given as collateral, ensuring priority over other creditors claiming the same asset. Depending on the state, registration is carried out at a designated institution, such as a registry office. The process is simplified and allows the creditor to record the collateral with a brief statement, without the need for detailed descriptions, which facilitates registration and searches by third parties. Under the provisions of UCC Article 9, the financing statement remains valid for five years and may be extended or terminated through a release or termination statement.

On the other hand, patents are subject to federal legislation, but such regulation applies to patent rights themselves and not to their use as collateral. As noted by MARCO (2015), there is no specific law or regulation that determines the exact place to file a financing statement involving patents. However, the U.S. Court of Appeals for the Federal Circuit has issued guidance suggesting that creditors accepting patents as collateral should also file an additional record with the USPTO (United States Patent and Trademark Office) as a precautionary measure. For greater security, a double registration—both in the appropriate state registry and with the USPTO—is recommended. It should be noted that recording with the relevant USPTO division involves an associated cost.

The transfer of rights of guarantees registered under the UCC is essential for commercial transactions, as it provides flexibility for both creditors and debtors in managing these guarantees. The UCC, a set of uniform laws adopted across all U.S. states, regulates a wide range of commercial transactions, including those involving the use of business assets as collateral for obtaining credit, thereby providing a secure basis for such operations.

When a creditor, known as a secured party, registers a guarantee under the UCC, they secure rights over certain debtor assets that serve as collateral in the event of default. These rights, however, are not immutable: creditors may transfer their rights, in whole or in part, to third parties in a process called assignment. Assignment may be structured in various ways, depending on the needs of the transaction and the parties involved.

In a full assignment, the original creditor fully transfers their rights over the collateral to a third party, the assignee. This type of assignment typically occurs when the original creditor decides to sell or completely transfer their interest in the loan or underlying transaction. In such cases, the new creditor assumes all rights and responsibilities previously held by the original creditor, a common arrangement in securitization or credit restructuring operations.

In contrast, a partial assignment offers greater flexibility by allowing the creditor to transfer only a fraction of the rights over the collateral. This division may be expressed as a percentage of the total collateral value or as a portion related to specific assets covered. Partial assignment is advantageous in situations where multiple creditors jointly finance a transaction, or where the debtor seeks to diversify their sources of credit. In this case, the original creditor retains rights over the unassigned portion of the collateral, fostering a more distributed financing structure.

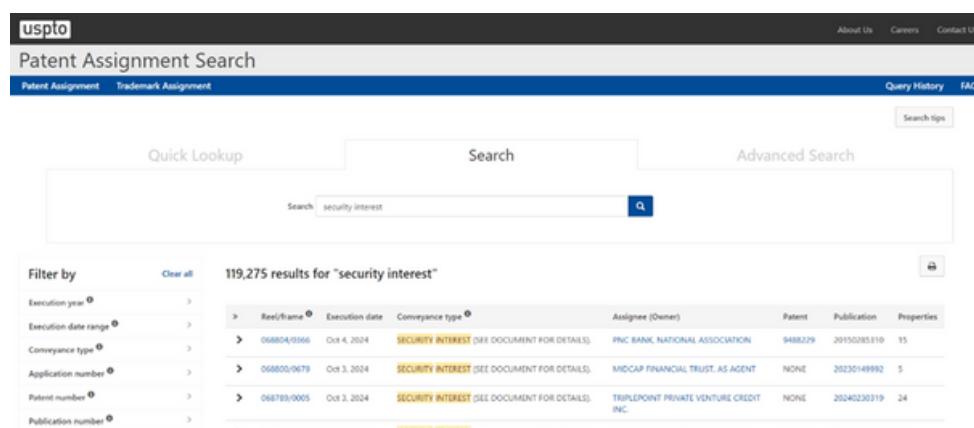
Additionally, there is the possibility of a partial assignment of specific assets, in which the creditor fully transfers rights over a particular asset used as collateral. In this scenario, the original creditor retains most of the rights over the collateral but transfers complete rights over a specific asset to a new creditor. This modality is particularly useful when different assets within the same collateral have varying levels of attractiveness or risk for creditors.

The assignment alternatives offered by the UCC allow creditors to adjust their stakes according to market conditions, redistributing risks and responsibilities as needed. For debtors, this flexibility may facilitate access to more competitive financing, as different creditors can participate in distinct parts of the transaction, each with its own risk profile and interest.

The various types of assignment within the UCC context—full assignment, partial assignment, and full transfer of rights over part of the collateral—reflect the sophistication and adaptability of modern commercial transactions. These options enable strategic risk management, allowing the parties involved to adjust their stakes and responsibilities according to the specific needs of each operation.

This ability to customize financial products fosters a more dynamic and resilient market—a critical advantage in today's rapidly evolving economy.

Figure 1 – Keyword search mechanism



Source: Author's elaboration.

In the U.S., an agreement in which a patent is used as collateral is called a “security interest agreement” (Figure 1). In this type of negotiation, the creditor is considered a third party, since the first and second parties are the inventor and the company holding the patent. In this standard arrangement, the creditor assumes the role of an interested third party, securing loan repayment by using the patent as collateral. In case of default, the creditor has priority in the disposal of the asset. Ownership of the patent or application remains with the holder, except in cases of non-payment, when the creditor enforces the guarantee. Once the debt is settled, a release document is issued, restoring ownership of the asset to the borrower. When a patent is pledged as collateral, it is considered a temporary assignment of rights from the holder (assignor) to the creditor (assignee).

Figure 2 – Image of a patent registration as collateral using the “Security interest” search, “Patent Assignment” tab, at the USPTO



Source: Author's elaboration.

The USPTO offers a search tool that allows users to identify whether a patent or trademark has a security interest registration. Figure 1 illustrates this feature, and Figure 2 shows an example of a registered security: on September 16, 2024, patent No. 9849027, referring to an ocular implant device, was pledged as collateral by ALIMEA SCIENCES, INC. to JPMORGAN CHASE BANK, N.A., as administrative agent. Likewise, Figure 3 shows a trademark registered as collateral. Generally, banks avoid the outright assignment of patents, since their business does not involve patent exploitation, in addition to the potential legal liabilities such assets may entail. However, in some exceptions, major banks have used pledged patents for internal innovation in areas such as fintech (NGUYEN and HILLE, 2018).

Figure 3 – Image of a trademark registration as collateral using the “Security interest” search, “Trademark Assignment” tab, at the USPTO

Assignor HEALTHSCAPE ADVISORS, LLC	Entity type/citizenship LIMITED LIABILITY COMPANY/ILLINOIS	Assigned properties (1 of 3) Serial 87097666 Sep 17, 2024 HEALTHSCAPE ADVISORS
Assignee HPS INVESTMENT PARTNERS, LLC	Entity type/citizenship LIMITED LIABILITY COMPANY/DELAWARE	Correspondent MRS. JESSICA BAIADA-BARTLETT 1271 AVENUE OF THE AMERICAS NEW YORK, NY 10020

Source: Author’s elaboration.

In secured transactions, the nature of the transfer—such as an outright assignment, license, or conditional sale—must be clearly defined and recorded. At the USPTO, for example, these are categorized as 'conveyance types,' allowing lenders and investors to verify the exact status of a patent or trademark.

Figure 4 – Assignment or transfer options in the “Security interest” search

Conveyance type ⓘ >

☐ SECURITY INTEREST

40972

☐ ASSIGNMENT OF ASSIGNORS INTEREST

32968

☐ LIEN

699

☐ COURT ORDER

109

☐ RELEASE BY SECURED PARTY

87

☐ CONDITIONAL ASSIGNMENT

87

☐ LICENSE

62

☐ CHANGE OF NAME

35

☐ MERGER

19

☐ MORTGAGE

18

☐ NUNC PRO TUNC ASSIGNMENT

1

☐ MERGER AND CHANGE OF NAME

1

Show less

Submit

Source: Author’s elaboration.

The different types of conveyance or forms of assignment/transfer of rights, especially related to intellectual property and guarantees, play a fundamental role in commercial and financial transactions. A Security Interest refers to a creditor’s right over a debtor’s assets as collateral for a loan. This right allows the creditor to claim the asset in the event of default. An Assignment of Assignor’s Interest is a form of transfer of rights or property from one party (assignor) to another (assignee), without necessarily implying a full transfer of ownership.

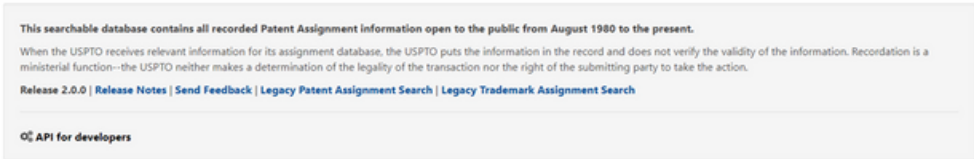
Another important type is the Lien, a legal right over someone’s property as a way to secure the payment of a debt. A Court Order involves transfers or assignments of assets resulting from a judicial decision. In the case of a Release by Secured Party, the release of a security right occurs after the settlement of a debt.

A Conditional Assignment refers to a transfer of rights subject to certain conditions before becoming effective. A License, in turn, grants third parties the right to use an asset, generally intellectual property, without transferring ownership of the asset.

When a Change of Name occurs, it refers to an update in the record due to a change in the owner’s name, without implying a change in ownership. In cases of a Merger, rights are transferred as part of the merger process between companies, while a Mortgage involves the use of an asset, such as property, as collateral for a loan.

A Nunc Pro Tunc Assignment is a form of retroactive assignment, used to reflect an act that should have been recorded in the past. Finally, a Merger and Change of Name occurs when both a merger between companies and a change in the owner’s name happen simultaneously, with both updates recorded at once. NGUYEN (2018) gathered statistics on the growth of patent use as collateral from 1980 to 2016. The series begins in 1980 because the database only provides records starting from that year, as shown in Figure 5.

Figure 5 – Time limit of the database



Source: Author’s elaboration.

Table 1, taken from Nguyen (2018) and shown on the next page, presents the annual number of granted patents as well as the number of patents registered as collateral by banks and other financial institutions during the period from 1980 to 2016. It is important to highlight that the variables analyzed are flow data, not stock. Based on these data, it was possible to calculate the proportion of patents pledged as collateral relative to the total number of patents granted each year. At the start of the historical series, this ratio was only 1.3%, indicating that just 1.3% of granted patents were used as loan or financing collateral. By 2016, this proportion had increased significantly, with 53.6% of granted patents being registered as collateral.

The collateral rate (%) is a ratio between two historical series that indicates the use of patents as collateral relative to the growth in the number of granted patents. It is worth clarifying that patents pledged as collateral are not limited to those granted in the same year but also include patents granted in previous years. With that in mind, the average collateral rates show consistent growth over the decades, indicating greater acceptance and use of patents as collateral by financial institutions. In the 1980s, the average rate of 7.08% suggests that the use of patents as collateral was quite limited. This percentage gradually increased, reaching 10.94% in the 1990s, reflecting a growing appreciation of intangible assets. The 2000s saw a significant jump, with an average of 26.78%, likely driven by the expansion of the technology sector and greater formalization of IP assets. In the 2010s, the average reached 40.77%, pointing to a growing trend among financial institutions to consider patents as a valid and strategic form of loan collateral.

The average collateral rates for banking and non-banking institutions show a growth trend across decades. In the 1980s, collateral rates were low, with 7.2% in banks and 4.7% in non-banking institutions. In the 1990s, these rates rose to 9.6% and 5.5%, respectively. The largest growth occurred in the following decades, with the banking average reaching 18.5% in the 2000s and 23.7% in the 2010s, while non-banking institutions followed the same upward trend, reaching 12.3% and 16.1%. This growth reflects a broader, though uneven, acceptance of collateral, with the banking network showing more significant acceptance of patent-backed guarantees compared to non-banking institutions within the financial system over time.

Table 1 – Patents issued and patent collaterals registered by banks and other financial institutions during the period 1980 to 2016

Year	Patents Granted	Collateral Registered	Collateral Rate (%)	Collateral Registered by Banks	Collateral Rate in Banks (%)	Collateral Registered by Non-Banking Institutions	Collateral Rate in Non-Banking Institutions (%)
2016	333,586	178,855	53.60%	117,262	35.20%	61,593	18.40%
2015	325,979	103,355	31.70%	42,012	12.90%	61,343	18.80%
2014	326,032	102,513	31.40%	64,591	19.80%	37,922	11.60%
2013	302,948	134,002	44.20%	83,813	27.70%	50,189	16.50%
2012	276,755	74,431	26.90%	39,126	14.40%	35,305	12.50%
2011	247,713	71,913	29.00%	44,072	17.80%	27,841	11.20%
2010	244,341	59,773	36.70%	46,454	19.00%	13,319	17.70%
2009	191,92	92,726	48.30%	46,688	24.30%	46,038	24.00%
2008	185,224	56,149	30.30%	26,283	14.20%	29,866	16.10%
2007	152,899	66,962	36.60%	28,706	15.70%	38,256	20.90%
2006	196,405	37,313	29.20%	32,614	16.60%	4,699	12.60%
2005	157,718	40,383	25.60%	18,458	11.70%	21,925	13.9%
2004	181,299	42,194	23.30%	21,810	12.00%	20,384	11.30%
2003	187,012	48,544	26.00%	26,783	14.30%	21,761	11.70%
2002	184,375	45,492	24.70%	27,440	14.90%	18,052	9.80%
2001	183,970	31,100	16.90%	16,816	9.10%	14,284	7.80%
2000	175,979	25,570	14.50%	14,613	5.50%	10,957	9.00%
1999	169,055	20,679	12.20%	9,522	8.40%	11,157	3.80%
1998	163,142	22,002	13.50%	13,731	6.00%	8,271	7.50%
1997	124,069	12,662	10.20%	7,479	7.60%	5,183	2.60%
1996	121,656	14,861	12.20%	9,158	5.00%	5,703	7.20%
1995	113,834	11,132	9.80%	3,739	4.60%	7,393	5.20%
1994	113,584	10,495	9.20%	5,258	5.40%	5,237	3.80%
1993	109,746	10,655	9.70%	5,970	5.80%	4,685	3.90%
1992	107,394	10,394	9.70%	6,277	5.80%	4,117	3.90%
1991	106,696	11,428	10.70%	6,222	7.80%	5,206	2.90%
1990	99,070	12,979	13.10%	7,759	8.40%	5,220	4.70%
1989	102,533	13,112	12.80%	8,663	8.40%	4,449	4.40%
1988	84,272	14,840	17.60%	9,257	11.00%	5,583	6.60%
1987	89,385	8,933	10.00%	3,024	5.60%	5,909	4.40%
1986	76,562	15,865	20.60%	8,884	11.60%	6,981	9.00%
1985	77,245	6,086	7.90%	3,040	3.90%	3,046	4.00%
1984	72,650	5,770	7.50%	3,546	3.50%	2,224	4.00%
1983	61,982	5,418	8.70%	3,439	5.50%	1,979	3.20%
1982	64,276	3,426	5.40%	1,421	2.20%	2,005	3.20%
1981	71,064	2,658	3.70%	737	1.00%	1,921	2.70%
1980	66,170	848	1.30%	226	0.30%	622	1.00%

Source: Nguyen and Hille (2018).

The collateral rate (%) is a ratio between two historical series that provides an indication of the use of patents as collateral in relation to the growth in the number of granted patents. It is important to clarify that patents pledged as collateral are not limited to those granted in the same year but also include patents granted in previous years. With this in mind, the average collateral rates show consistent growth over the decades, indicating greater acceptance and use of patents as collateral by financial institutions. In the 1980s, the average of 7.08% suggests that the use of patents as collateral was quite limited. This percentage gradually increased, reaching 10.94% in the 1990s, reflecting a growing appreciation of intangible assets. The 2000s recorded a significant jump, with an average of 26.78%, likely driven by the expansion of the technology sector and greater formalization of IP assets. In the 2010s, the average reached 40.77%, pointing to a growing trend among financial institutions to consider patents as a valid and strategic form of loan collateral.

The average collateral rates for banking and non-banking institutions show an upward trend across decades. In the 1980s, collateral rates were low, at 7.2% in banks and 4.7% in non-banking institutions. In the 1990s, these rates increased to 9.6% and 5.5%, respectively. The greatest growth occurred in the following decades, with the banking average reaching 18.5% in the 2000s and 23.7% in the 2010s, while non-banking institutions followed the same trend, reaching 12.3% and 16.1%. This growth reflects a broader, though uneven, acceptance of guarantees, with the banking sector showing a stronger acceptance of collateral compared to non-banking institutions within the financial system over time.

For comparison, according to NGUYEN (2018), in 2017, 71% of homeowners used their homes as collateral for financing. Despite advances in the use of patents as collateral, this does not result directly from the acceptance of patents themselves. In U.S. bank loans, financial institutions may accept all of the borrower's assets as collateral, including patents. The English term for this is "blanket lien," which can be translated as general lien. Within the list of assets, the following are included:

- Accounts and contractual rights: All accounts and contractual rights the debtor holds or may acquire.
- Intellectual property: Includes software, programs, stored data, client lists, and general intangible assets such as patents, registered trademarks, and copyrights recorded with the U.S. Patent and Trademark Office or Copyright Office, as well as rights related to goodwill and royalties arising from the use of such property.
- Future property: The creditor holds rights over all present and future assets, including goods, products, guarantees, and records related to those assets, as well as any funds credited in the debtor's name.
- Balances, credits, and reserves: The creditor holds rights over any account balances, sums of money, or other assets in the debtor's possession, or those in the creditor's possession, as well as any tax refunds owed to the debtor by state or federal governments.
- Additional rights: In addition to receivables (accounts receivable) and their proceeds, the debtor grants the creditor rights over deposits, savings accounts, or similar accounts held in any banking institution, as well as any tax refunds to be received.

The growth in the number of patents pledged as collateral and the financial institutions' acceptance of various assets demonstrate a considerable demand for loans. Other interesting results from the research concern the increase in the number of patents collateralized per transaction (Table 2). This means that companies with larger, more consolidated patent portfolios are more effective in obtaining loans, in contrast to companies with only a few patents or those in early stages, such as startups.

Table 2: Number of Patents Collateralized per Transaction

Name	Patents Collateralized	Transactions	Proportion
Bank of America	35,220	192	183.4
U.S. Bank	21,661	58	373.5
JPMorgan Chase Bank	19,605	175	112
BNY Mellon	11,188	13	860.6
Wells Fargo Bank	6,319	169	37.4
Deutsche Bank	5,784	51	113.4
Citibank	2,639	48	55
Royal Bank of Canada	2,457	26	94.5

Fonte: Nguyen (2018).

All the statistics presented so far show that there is strong demand for financing from technology-based companies—those that invest in innovation through patents. On the other hand, what characterizes the supply of loans or financing for these companies? The answer is not difficult. The U.S. has more than 6,000 banks or financial institutions. However, in 2016, only eight concentrated the main sources of financing for companies pledging patents as collateral. These are among the largest banks in the U.S., and two of them are major foreign banks operating in the country: the Canadian Royal Bank of Canada and the German Deutsche Bank. In other words, loan supply backed by patents is essentially provided by large banks.

In 2016, several financial institutions recorded significant numbers in terms of patent collaterals, transactions, and their respective ratios. Bank of America led in terms of volume, with 35,220 patents pledged as collateral, resulting from 192 transactions, with a ratio of 183.4. BNY Mellon stood out for having the highest ratio, at 860.6, despite having engaged in only 13 patent collateral transactions, totaling 11,188 patents. Citibank, with 2,639 patent collaterals in 48 transactions, showed one of the lowest ratios, 55.0. Deutsche Bank registered 5,784 collaterals in 51 transactions, with a ratio of 113.4, while JPMorgan Chase Bank recorded 19,605 collaterals in 175 transactions, with a ratio of 112.0. The Royal Bank of Canada, with 2,457 collaterals in 26 transactions, had a ratio of 94.5. U.S. Bank, in turn, stood out with 21,661 collaterals in 58 transactions, reaching a ratio of 373.5. Finally, Wells Fargo Bank registered 6,319 collaterals in 169 transactions, with the lowest ratio, 37.4.

While institutions like Bank of America and U.S. Bank use patents in a large number of transactions, banks such as BNY Mellon, despite fewer deals, show a very high transaction ratio, suggesting the high value or strategic importance of these transactions. This variation may indicate differences in collateralization strategies, efficiency in the use of patents, and risk profiles among banks.

In the U.S., banks seek to diversify loans across different borrowers because of limits imposed by banking regulations. American banking regulation imposes lending limits on financial institutions, but what ultimately defines how much credit a bank will provide is the collateral requirement, referred to as “readily marketable collateral.” This is a formal term used in transactions, with its definition explicitly included in the Code of Federal Regulations, revised and published annually.

According to the Code of Federal Regulations (2024):

"Readily marketable collateral means financial instruments and bullion that can be sold under normal market conditions with reasonable promptness at a fair market value determined by quotations based on actual transactions in an auction or on a daily bid-and-ask price market."

(our translation).

This definition establishes the existence of:

- a pricing mechanism;
- the existence of a market for trading; and consequently,
- the (daily) liquidity of the asset pledged as collateral.

Therefore, the existence of legislation that ensures the functioning of the market on its own, without requiring the public sector to be the primary driver, is one of the main elements that favors the use of intangible assets as collateral for loans in the U.S.

On the other hand, compared to other countries, as we will see later, although the American market already makes broad use of intangible assets for financing, NGUYEN (2018) still considers that there is a particular aversion to one class of assets: patents. The cause of the problem lies in the regulations and statutes of traditional banks, due to banking rules and lending practices based on lending limits, reserve capital, banking regulation related to unsafe or illiquid practices, and the definition of eligible collateral under banking regulations.

According to NGUYEN (2018), in determining whether or not a borrower meets the basic requirement of readily marketable collateral, U.S. banks establish a general lending limit of up to 15% of the bank's unimpaired capital and surplus. If the borrower in question possesses assets that meet the requirement of readily marketable collateral, the bank increases the lending limit by an additional 10% of the bank's unimpaired capital and surplus. Technology-based companies have smaller credit limits because most of their assets are intellectual property, and therefore do not meet the requirement of readily marketable collateral. Thus, in the U.S., intellectual property is also not considered readily marketable collateral. Even though banks may still lend within the basic 15% limit of unimpaired capital and surplus, banking regulation encourages the financial sector to avoid practices deemed unsafe or unsound.

The Federal Deposit Insurance Corporation (FDIC), the federal agency responsible for supervising the U.S. financial system, establishes through its board the practices considered unsafe or unsound for financial institutions. These practices are defined as actions or omissions that run counter to normally accepted standards of prudent operation, and which, if continued, may expose an institution to significant risk of loss or damage. The FDIC warns that such practices not only affect the financial health of Insured Depository Institutions (IDIs) and their shareholders, but also threaten the stability of the Deposit Insurance Fund, which protects depositors' assets. This approach seeks to preserve integrity and trust in the financial system, promoting a culture of prudence and responsibility within banking operations.

Examples of unsafe and unsound practices cited by the FDIC include: lending without credit analysis, lack of knowledgeable and experienced professionals to evaluate banking transactions, and violation of standard banking practices. There are also other unsafe and unsound practices related to credit risk, such as relying on poor or outdated valuations, and lending without ensuring that companies are capable of continuing their business activities.

All of this contributes to the aversion of banks and banking institutions to lending to technology-based companies or startups, such as those whose asset portfolios include patents.

However, other non-banking financial institutions, such as hedge funds or investment banks, are not regulated by the banking system and therefore are not subject to capital requirements and banking practices. As a result, the trend is that non-banking financial institutions will increasingly provide credit to innovative companies based on intellectual property.

Finally, NGUYEN (2018) suggest as a solution amending banking law to relax rigid rules on capital regulation, as well as secured transactions law, by explicitly recognizing the existence and importance of IP assets as collateral for loans, in order to unlock the underutilization of patents in commercial lending in the U.S.

CANADA

The Canadian economy underwent major transformations in the early 21st century, particularly in the clothing and textile industries, which had once been robust. Over time, it became clear that there was a comparative advantage in importing these products—an economic concept that considers the opportunity cost of local production compared to other countries. In Canada's case, China and India were able to produce at significantly lower costs, making it more efficient for Canada to redirect its productive resources toward higher value-added sectors, such as knowledge-based companies. This redirection had a major impact on the manufacturing sector, resulting in nearly half of its jobs being lost between 2004 and 2008.

Companies focused on knowledge production and intangible assets faced difficulties in obtaining financing in Canada, as there were few incentives for banks to lend to these businesses. The lack of standardized methods for valuing intellectual property assets added complexity to this scenario. Even so, some alternative financial institutions were already offering credit to SMEs with intangible asset portfolios. The Canadian government recognized the value of these IP-rich companies, which have global client bases and the potential to withstand economic crises. Inspired by the experience of firms like Quantius, an alternative financier that had already been providing credit to SMEs with intangible assets, Canada used this model as a reference to create its IP-backed financing policy.

One of the most emblematic examples of how financing based on intangible assets can drive business growth is that of Thornhill Medical. In 2017, through the first initiative related to IP-backed finance, Quantius provided funding that enabled Thornhill Medical not only to launch three new products but also to optimize its supply chain and strengthen production. This capital injection paved the way for the company to attract Series A funding the following year from a private equity firm in Shanghai. As a result, Thornhill's revenue grew by more than 800% in a short period. When the COVID-19 pandemic struck in 2020, the company was able to supply up to 500 ventilators per month to hospitals across Canada.

The success of Quantius and its team led them to join the Business Development Bank of Canada (BDC) in May 2020. BDC is Canada's development bank, dedicated to supporting companies at all stages, and has already committed more than CAD 60 billion to businesses. BDC Capital is BDC's investment arm, managing CAD 3 billion and providing support through four main areas:

- a) Venture Capital: Funding for innovators seeking to transform business ideas into successful companies.
- b) Growth & Transition Capital: Funding for established or high-growth companies looking to finance a new project or business transition.
- c) Growth Equity Partners: Minority equity investments for mid-sized growth companies seeking exponential expansion.

d) IP-Backed Financing: An alternative source of funding to raise capital supported by the strength and value of a company's intellectual property portfolio, enabling growth.

Financing for innovative businesses can be divided into several strategic modalities, each aimed at a specific stage of growth. Venture Capital is designed for entrepreneurs seeking to transform their ideas into successful businesses, providing the capital required for this initial phase. Growth & Transition Capital supports established or rapidly growing companies, making it possible to finance new projects or important business transitions. Growth Equity Partners, in turn, provides minority investments in mid-sized companies, helping them expand exponentially. Finally, IP-Backed Financing is an alternative that allows companies to raise capital based on the value and strength of their intellectual property portfolios, fostering growth without relying on traditional tangible assets.

In 2020, the Intellectual Property Backed-Financing Fund was created, with CAD 160 million to support Canada's knowledge-based companies through equity or debt. A key factor in Canada's pivot toward supporting companies at various stages—and more notably IP-backed finance—was the know-how and experience of Lally Rementilla, leader of the team. As mentioned earlier, Lally and her team had already developed similar work at Quantius.

Lally and her team conduct an in-depth analysis of companies' intellectual property asset portfolios, considering both current and potential competitors in domestic and foreign markets, while also investigating possible rights infringements. In addition, they evaluate opportunities for partnerships or licensing, the risks associated with IP rights, and the level of innovation within the company. Finally, they carry out the valuation of IP assets. After a loan is granted using IP as collateral, the intangible assets undergo constant monitoring and periodic revaluations throughout the loan term to ensure their appreciation and compliance with initial conditions.

When exploring the system of the Canadian Intellectual Property Office (CIPO), it is clear that registering transfers of ownership or changes of name for a patent, while not mandatory, brings significant advantages for rights holders. This registration ensures that patent documentation is always up to date, accurately reflecting the current owner of the rights, which facilitates patent issuance to the proper holders. In addition to reinforcing record accuracy, this practice promotes transparency and security in transactions involving licensing, financing, or sales, allowing public recognition of rights holders in a clear and swift manner.

Lally views the IP Backed-Financing Fund not as an innovation or technology fund, but as a vehicle specialized in intellectual property, with a specific focus on valuing intangible assets. Canada has achieved success with this approach, notably with a successful case in 2017 and the subsequent incorporation of the Quantius team into the fund. These initiatives reinforce the role of the IP Backed-Financing Fund in the landscape of IP-backed financing.

2.2. ASIA AND OCEANIA

CHINA

According to APEC (2023), since 1990 the Chinese government and the China National Intellectual Property Administration (CNIPA) have been implementing loan policies secured by intellectual property with the aim of boosting business innovation. Initiatives at different levels of government seek to increase public awareness of the value of IP, encouraging SMEs to innovate and strengthening the local economy. Since 2006, China has established itself as the most active market for state-supported IP financing, with nearly 2,000 companies financed in 2015 (APEC, 2023).

A notable initiative was launched in 2013, when the Chinese government began a national pilot project to provide loans to eligible companies, allowing intellectual property rights such as patents, could be used

as collateral for loans or financing. Between 2018 and 2019, thousands of companies benefited from these financing schemes, with Guangdong province reaching CNY 30 billion (USD 4 billion) in patent-backed loans. In Shanghai, special funds supported the expansion of short-term loans for SMEs, resulting in 500 loans totaling CNY 1.8 billion by 2013. Three main initiatives contributed to this success: the creation of criteria and guidelines for IP pledge evaluation, the implementation of pilot projects, and the improvement of administrative procedures (APEC, 2023).

Similar to real estate mortgages, which allow owners to access financing without losing property ownership, intellectual property pledges enable right holders to monetize the inherent value of their assets without the need to sell them. In China, collateral is not limited to patents, but also includes trademarks, copyrights, and author's rights, as recorded in 2015 (CHUNG, 2016a and 2016b):

a) Copyrights as collateral: approximately USD 421 million were transacted using copyrights as loan collateral. In China, this form of loan is most common in the film industry, with the most emblematic case being the movie *Curse of the Golden Flower*, which secured a USD 10 million loan backed solely by a pre-sale contract.

b) Trademarks as collateral: about USD 7.4 billion were transacted using trademarks as collateral for loans.

c) Patents as collateral: approximately USD 8.1 billion were transacted using patents as collateral for loans.

Regarding intellectual property insurance, since 2016 CNIPA has been conducting a pilot program on patent insurance in 19 regions. In 2016, the insured value in pilot regions reached CNY 310 million, covering a total of 1,702 projects. By the end of September 2023, the People's Insurance Company of China (PICC) had provided IP asset insurance services in 99 cities across 22 provinces, offering risk coverage of more than CNY 130 billion for over 50,000 patents, trademarks, and geographical indications held by more than 31,000 companies.

In China, four main types of risks are considered when using a patent pledge as collateral for obtaining loans from financial institutions, given that such operations are characterized as risk investments:

- Legal risks: These are high, especially due to the possibility that a patent application may not be granted, which would result in the asset losing its value and the borrower being unable to repay the loan. Another relevant risk is judicial seizure, which may occur in this context.
- Valuation risks: The economic valuation of a patent is a complex task requiring high specialization and depending significantly on the method used to estimate its value.
- Operational risks: There are significant risks associated with the industrial and commercial applications of a patent still under review. It may be discovered during the examination process that the claimed rights already belong to third parties, leading to IP infringement disputes, especially when competitors operate in the same territory.
- Disposal risks: The transfer of a pledged patent can be time-consuming, particularly when the market for the technology in question is limited. Moreover, the value of a patent tends to decline over time due to technological obsolescence, aggravating this risk during the assignment process.

In China, for example, if a patent were hypothetically valued at USD 10 million, a bank could grant a loan of USD 6 million to the patent holder, while the government would provide the remaining USD 4 million. In this situation, the patent holder would sign a formal document registering the patent as collateral to the state guarantor.

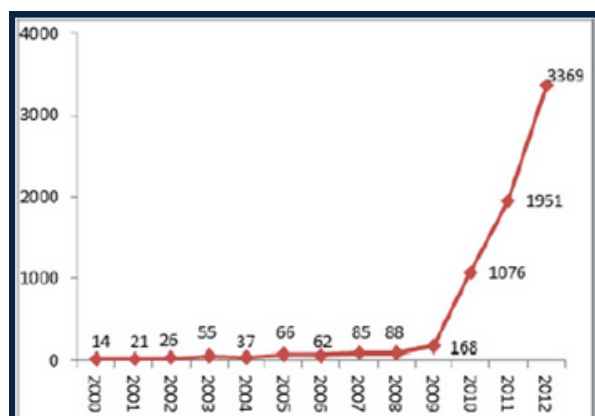
Currently, two structures for patent applications are available in China:

The first structure regulates the pledge of a patent or a patent application, which means that the patent application itself is used as collateral. This model incorporates relevant provisions from civil law, property law, patent legislation, and regulations involving pledge transactions, based on the Provisional Administrative Measures for the Registration of Patent Pledge Contracts (JUN, 2007).

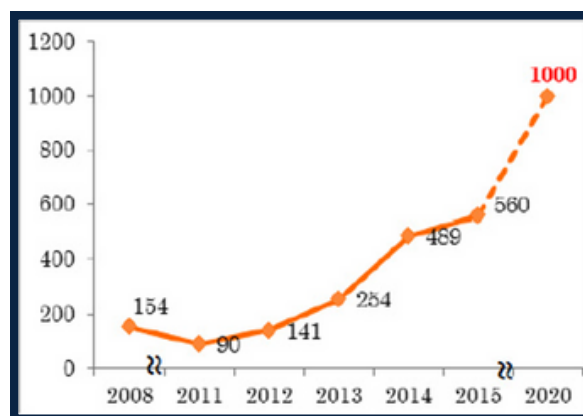
The second structure encompasses pledges through Technology Transfer Agreements of patent-derived rights (royalties). Although this modality is relatively recent in the Chinese market, it can be interpreted as a loan secured by royalty payment flows over a defined period. For example, if a patent holder signs a license agreement for the exploitation of a patent with a manufacturer, that manufacturer undertakes to pay annual royalties to the patent holder for a specific period. The patent holder, in turn, may use these royalty receivables as collateral to obtain loans from a financial institution. This type of transaction offers significant flexibility in providing credit to companies, but, as previously mentioned, it does not eliminate the associated risks.

The number of financial transactions using patents as collateral in China has grown in an almost exponential manner since 2005, as shown in Figure 6.

Figure 6: Transactions and cumulative amount of patent pledges.



(a) Number of patent pledge transactions.



(b) Cumulative amount of patent pledge loans in units of ¥100 million.

Source: Chung, 2016.

Many technologically innovative small and medium-sized enterprises (SMEs) have expressed dissatisfaction at still feeling excluded from government project financing policies in China, particularly with regard to the use of intellectual property as collateral. This occurs because Chinese banks tend to prefer working with well-established companies that have abundant physical assets to secure loans and thus mitigate risks.

Securitization, or asset-backed securitization, is a financial practice that consists of pooling different types of financial assets and converting them into standardized securities, which can be traded in both domestic and international capital markets. In 2015, China introduced for the first time the proposal of “intellectual property securitization.” By 2016, it expanded this initiative by exploring “IP securitization,” in addition to developing trust and support services for the use of IP as a capital contribution.

The pilot program for IP securitization was incorporated into the development plans of strategic regions such as the Guangdong–Hong Kong–Macau Greater Bay Area and the Hainan Free Trade Port. Between 2018 and 2021, IP asset securitization was tested in other provinces and cities in China (WIPO, 2024b).

It is important to highlight that using IP assets as collateral differs significantly from securitizing those assets:

- Using IP assets as collateral: This is similar to mortgaging IP assets, allowing the holder to obtain a loan proportional to the value of those assets from a financial institution. If the holder fails to meet payment obligations, the lender (financial institution) has the right to take possession of the IP assets to recover the loaned amount.
- Securitizing IP assets: This consists of converting IP assets into tradable financial securities, also known as asset-backed securities (ABS). These securities are backed by a pool of assets that generally generate cash flow, such as loans, leases, credit card balances, or receivables, attracting investors seeking returns. In the case of IP assets, this involves issuing securities based on the cash flow generated by intellectual property, used as collateral for debt repayment, while also enabling credit enhancement through structured finance. China implemented IP asset securitization on November 7, 2018.

Currently, in China, there are no government restrictions preventing companies from issuing IP securitization products on the country's stock exchanges, such as those of Shanghai and Shenzhen. Projects that meet the criteria may create special plans under the Provisions on the Administration of Asset Securitization Business of Securities Companies and Fund Management Subsidiaries, allowing them to be listed and traded according to the rules of these exchanges.

The IP securitization pilot has been crucial in expanding access to loans for micro and small private enterprises, as well as fostering entrepreneurship and innovation, helping to overcome the financing difficulties faced by these businesses. According to market institution data, as of January 31, 2021, 24 IP securitization products had been issued in the country, totaling CNY 8.97 billion. These products were issued across eight cities, with Beijing leading with eight issuances. The underlying assets of these products include four main categories:

1. Lease receivables from the sale and leasing of intellectual property,
2. Accounts receivable from IP transfers,
3. Licensing fees receivable from IP sublicensing, and
4. Principal and interest receivable on loans secured by IP pledge.

(Beijing Municipal Government, 2021).

JAPAN

The most common way to use Intellectual Property as collateral in financing requests in Japan is through a pledge, as provided in Article 96 of the Japanese Intellectual Property Law (Ministry of Justice, 2019).

Article 96.

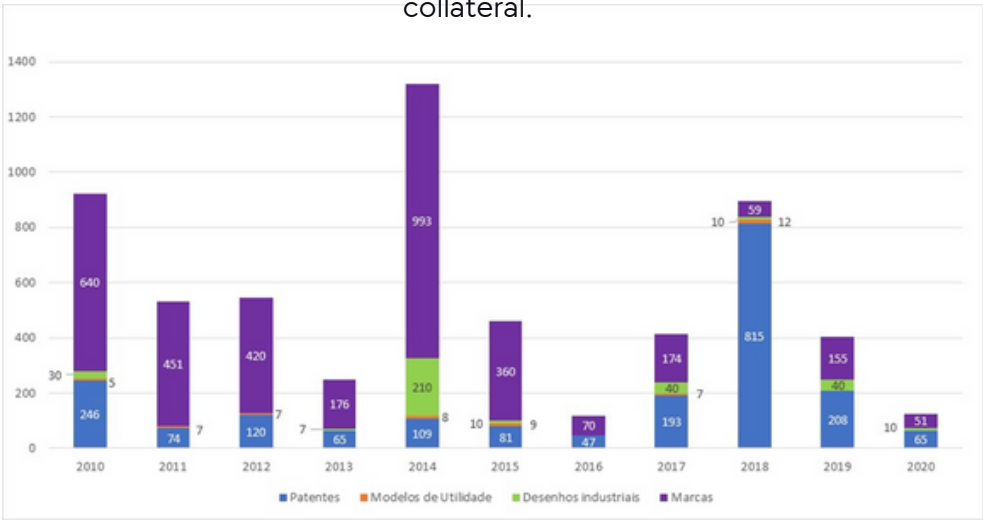
"The right of pledge on a patent right, exclusive license, or non-exclusive license may be exercised against any consideration to be paid for the patent right, exclusive license, or non-exclusive license, or any money or goods to be received by the patent holder or the exclusive licensee for the working of the patented invention; provided, however, that the creditor must attach the consideration, money, or goods before their payment."

(our translation).

Article 96 of the Japanese Patent Act establishes that royalties received must be considered in the event of a pledge, and they may also be used as collateral for obtaining loans from financial institutions. This context, related to the pledge of assets (tangible or intangible), is similar to that provided for in Brazilian Law No. 9.532 of December 10, 1997 (Brazil, 1997), specifically in Articles 64 and 64-A, which deal with the listing of assets prior to a pledge. However, Brazilian legislation goes further by stipulating that the interested party, subject to Article 64, has the right to request from the public registry office—where their assets and rights are listed—an evaluation of these assets, seeking to ensure a fair value for them, whether tangible or intangible.

The financing of intangible assets related to intellectual property in Japan began in 1995 and has since shown significant growth. Currently, around 260 companies have already received loans backed by IP, totaling approximately JPY 16 billion in transactions. Figure 7 shows statistics from 2010 to 2020, illustrating how IP rights, once listed and valued, are being used as collateral (WIPO, 2021a).

Figure 7: Japanese statistics on IP rights (Trademarks, Patents, and Industrial Designs) being used as collateral.



Source: WIPO, 2021a.

The Japan Patent Office (JPO) has been working to raise awareness about the importance of financing intellectual property (IP) assets among major financial institutions operating in the country, with a particular focus on supporting small and medium-sized enterprises (SMEs). To this end, the JPO has employed tools such as the “Intellectual Property Business Evaluation Form” and the “Intellectual Property Business Proposal Form,” which are sent to financial institutions (JPO, 2020). The objective is to expand these institutions’ evaluation criteria, which are currently limited to assigning economic value to companies, so as to also include the valuation of intangible assets related to IP.

In addition, the JPO plays a central role in disseminating this topic through symposia and seminars, aiming to foster a culture of IP appreciation and to create a broader understanding that supports the standardization of financing (ITA, 2024). In Japan, IP valuation is not limited to a monetary assessment of intellectual property rights but instead involves a qualitative evaluation, considering technologies that are effectively used and the company’s know-how. This process benefits firms with competitive superiority. Although the JPO has acquired theoretical knowledge on the valuation of intangible assets since 2017 (JPO, 2017), the Brazilian INPI has already had this expertise since 2014 and teaches it at its Academy of Intellectual Property (INPI, 2014).

The JPO also assumes the responsibility of recruiting financial institutions interested in financing Japanese SMEs. This process is carried out through a simple form that requires only the name of the financial institution, the department name, the name of the contact person, email, phone number, and confirmation of in-person attendance at the JPO for an in-person interview (JPO, 2020).

The recruitment of these institutions is based on the “Guidelines for the Recruitment of Financial Institutions,” which establish that the program is aimed at regional banks, second-tier banks, credit cooperatives, and credit guarantee associations, as well as government-affiliated financial institutions. These entities provide loans and management support to small and medium-sized enterprises. The program also allows SME data to be cross-referenced with that of financing institutions, using their intangible intellectual property assets as a way to highlight their strengths and strengthen relationships with potential financiers. After recruitment, the JPO is responsible for publicizing the participating institutions on its official website, thereby increasing visibility and promoting partnerships between companies and financial institutions.

SOUTH KOREA

It was with the “Technology Transfer Promotion Act” (APEC, 2023) that, in 2000, South Korea for the first time allowed financial institutions to carry out technology valuation so that it could be used as collateral for obtaining credit. In 2010, with the enactment of the “Framework Act on Intellectual Property” (KLT, 2022), the legal foundations were established for financing intellectual property assets, including patents, trademarks, industrial designs, and copyrights.

In South Korea, loans granted based on IP assets may reach the calculated or estimated value of the intangible asset used as collateral. This process follows several stages, including:

- a) loan consultation;
- b) feasibility analysis of the technology and intellectual property;
- c) IP valuation (conducted by an IP valuation agency);
- d) loan assessment;
- e) IP collateralization; and
- f) loan disbursement.

The main banks offering loans backed by IP assets play a fundamental role in this system, providing financial support to companies that leverage their intellectual property as collateral for growth and innovation:

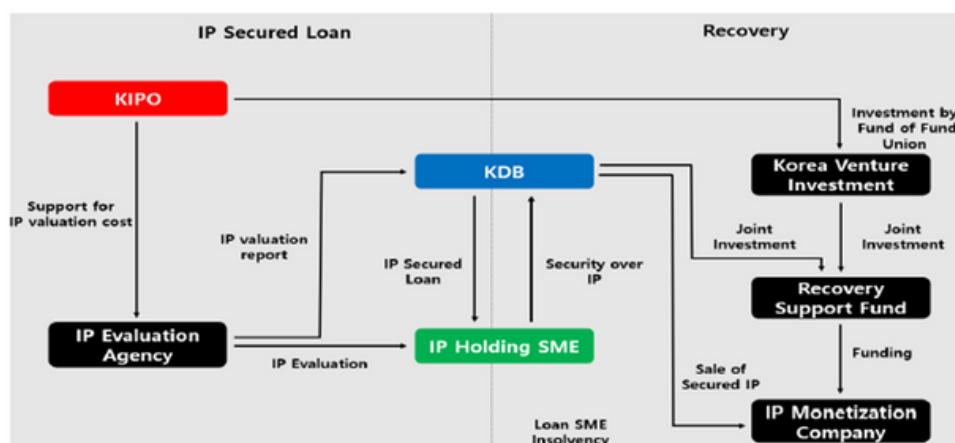
- Korea Development Bank (KDB) (since 2013);
- Industrial Bank of Korea (since 2014);
- Woori Bank;
- Shinhan Bank; and
- KEB Hana Bank.

In addition, there are corporations specialized in venture capital investment for startups and SMEs, such as KVIC and the Korea Finance Corporation.

In South Korea, it is also possible to obtain a guarantee or surety insurance for a loan using IP as collateral. Institutions such as the Korea Technology Finance Corporation (KIBO) and the Korea Credit Guarantee Fund (KODIT) provide guarantees of up to USD 1 million per operation. The KODIT fund itself holds USD 4.7 billion.

A simple flowchart illustrating the financing process using IP as collateral via KDB and the involvement of associated investors is shown in Figure 8.

Figure 8: IP finance scheme in South Korea.



Source: APEC, 2023.

In the flowchart shown in Figure 8, we see the structure of South Korea's IP Finance system, where SMEs and startups holding IP submit requests to the Korea Development Bank (KDB). The KDB, in turn, informs the Korean Intellectual Property Office (KIPO) and the Ministry of SMEs and Startups (MSS) about the request, which then release support resources to cover the costs of IP valuation (the appraisal of intangible IP assets). Three institutions — the Korea Intellectual Property Evaluation Center (KIPA), KODIT, and KIBO — use systems known as SMART, SMART 5, and KPAS II to generate monetary values for the intangible assets, subsequently producing IP valuation reports both for the applicants and for the KDB.

KIPO and/or MSS may then request investments from funds organized by government institutions such as KVIC together with the Korea Finance Corporation, which jointly invest in a support fund for investment recovery. This joint investment is carried out alongside the KDB through the "Pioneer IP" program. From there, the support fund for recovery channels resources to the IP monetization company, while the KDB is also responsible for handling insolvency issues with companies that obtained loans secured by their IP assets.

Regarding South Korea, it is relevant to highlight that KIPO Commissioner Yong-Rae Kim announced that after reaching USD 1.5 billion in 2019, the volume of IP-backed financing grew rapidly by 52.8%, reaching USD 1.98 billion in 2020. Specifically, the total amount of loans using IP as collateral was USD 1.45 billion; loans backed by guarantees issued on IP amounted to USD 532 million; and investments in companies with IP assets, as well as direct investments in those assets, totaled USD 197 million (KIPO, 2021).

A survey conducted with 1,608 companies that obtained IP-backed loans in 2020 revealed that 74.4% (1,197 companies) had low credit ratings. Despite this, while SMEs generally face an average interest rate of 3–4% on conventional loans, those that resorted to loans based on IP assets benefited from a more favorable interest rate of 2%, demonstrating the economic advantage of using IP as collateral.

The KIPA (KIPA, 2024) was established in 2013, in accordance with Article 35 of the Technology Transfer and Commercialization Promotion Act and Article 28 of the Invention Promotion Act, as a government-certified technology evaluation agency. The center consists of a highly qualified team of engineers, intellectual property agents, and accountants, in addition to more than 400 renowned external professionals from universities, research institutions, and industries. These internal and external experts are responsible for conducting technology assessments in various contexts, such as in-kind investments, technology transactions, fundraising, and patent infringement lawsuits. The goal is to provide accurate and well-grounded evaluations to support strategic and legal decision-making.

The following section presents the continuous growth, over the years, of loans granted to companies based on their intangible assets as collateral, accompanied by a similar increase in guarantees and investments, highlighting the progress of this practice in South Korea, as shown in Table 3.

Table 3: Types of loans granted to companies based on their intangible assets as collateral, as practiced in South Korea.

Tipo	2016	2017	2018	2019	2020	Total
IP-Secured Loan	202	866	884	4,331	10,93	17,213
IP-Guaranteed Loan	4,934	4,93	4,872	7,24	7,089	29,065
IP Investment	638	1,075	1,876	1,933	2,621	8,143
Total	5,774	6,871	7,632	13,504	20,64	54,421

Source: APEC, 2023.

Unit: KRW 100 million

An “IP-Secured Loan” is a type of loan in which intellectual property rights (patents, trademarks, copyrights, etc.) are used as direct collateral. This means that if the borrower fails to meet repayment obligations, the lender may take possession of those IP assets and sell or exploit them to recover losses. An “IP-Guaranteed Loan,” on the other hand, is a loan in which IP assets are used as an additional guarantee, but not directly as collateral. In this case, the IP assets serve as a promise that, in the event of financial difficulties, they could be monetized to ensure debt repayment.

In turn, “IP Investment” is a broader modality that encompasses various forms of exploiting intangible assets. This may include the internal development of technologies (such as R&D investments to create and patent new innovations), the acquisition of third-party IP assets, the licensing of IP assets with the aim of using royalties to support loan repayment, as well as the establishment of partnerships or joint ventures. This type of investment also involves strategies for enhancing and monetizing intangible assets through marketing, legal protection, and commercial exploitation.

INDIA

In India, legislation plays a crucial role in advancing IP-based financing, exemplified by the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act (“SARFAESI Act, 2002”). This law establishes the legal basis for financial institutions to use IP rights—such as patents, trademarks, copyrights, and franchises—as collateral in credit operations. By providing a clear and structured framework, the legislation offers legal certainty and regulates procedures for the enforcement of guarantees, theoretically encouraging the use of intangible assets as collateral.

However, banks remain cautious due to uncertainties regarding the effective existence of IP rights and the absence of uniform standards for their valuation. As a result, the monetization of IP rights in India is still predominantly focused on strategies such as licensing or assignment, highlighting the need to improve the practical application of the legislation to expand the use of these assets as loan guarantees.

According to the SARFAESI Act (SARFAESI, 2002), we have:

(k): “financial assistance” means any loan or advance granted or any debentures or bonds subscribed or any guarantees given or letters of credit established or any other credit facility extended by any bank or financial institution [including funds

provided for the purpose of acquisition of any tangible asset under a lease, hire-purchase or conditional sale, or under any other contract, or for obtaining a concession or license of any intangible asset, or for the purchase of debt instruments].

(l): "financial asset": (vb) any right, title or interest in any intangible asset, or license or assignment of such intangible asset, which secures the obligation to pay any unpaid portion of the purchase price of such intangible asset, or any obligation incurred or credit otherwise extended to enable the borrower to acquire such intangible asset or obtain a license of the intangible asset.

[...]

(t): "property": (v) intangible assets, such as know-how, patent, copyright, trademark, license, franchise, or any other commercial or business right of a similar nature [as prescribed by the Central Government in consultation with the Reserve Bank of India].

[...]

5. Acquisition of rights or interests in financial assets:

(2A) If the bank or financial institution holds any right, title, or interest in any tangible asset or intangible asset to secure the payment of any unpaid portion of the purchase price of such asset, or any obligation incurred, or credit otherwise extended to enable the borrower to acquire the tangible asset or the assignment or license of an intangible asset..."

(our translation)

In 2018, India saw a notable case involving an Ayurvedic hair care products company that used its brand, established in the market for more than 30 years, as collateral. As a result, the company obtained a loan from one of the country's largest private banks (Duff & Phelps, 2019).

In addition, there are the "India Innovation Fund" and the "Tata Capital Innovation Fund" (TATA, 2024), which provide venture capital for innovative ventures, including those focused on emerging technologies. Although the direct use of patents as collateral is still not widely practiced, these funds encourage the creation and commercialization of intellectual property rights.

The Tata Capital Innovation Fund, for instance, covers several areas, such as: Technology Development Funds, Patent Protection Funds, Technology Licensing Funds, Funds for Scaling/Validation/Technology Risk Reduction, Market Entry Funds, and Expansion Funds. Meanwhile, the SIDBI Bank manages the "India Innovation Fund," a venture capital fund that invests in early-stage Indian companies with high potential for technological innovation (Dutta, 2020).

SINGAPORE

Intellectual property (IP)-backed financing is a relatively new instrument through which intangible assets—such as intellectual property rights (patents, industrial designs, trademarks, copyrights, know-how, databases)—can be used as collateral to obtain credit. This can occur either through pledging the IP directly or through the transfer of rights over the cash flows derived from these assets (WIPO, 2021c). WIPO has been promoting its National Intellectual Property Finance Perspectives through reports that synthesize various initiatives on the use of IP as collateral across different countries (WIPO, 2024a).

Intellectual Property Financing Scheme (IPFS): This pilot initiative, launched by the Intellectual Property Office of Singapore (IPOS) in 2014, enables companies to use their intellectual property assets as collateral to secure financing from participating financial institutions (PFIs), with the support of the Singaporean government (IPOS, 2021a; 2021b). Additionally, the government subsidizes part of the valuation costs charged by specialized IP valuation institutions for companies that have already contracted loans, offering: (a) 50% of the IP valuation cost, (b) 2% of the IP asset value, or (c) S\$25,000 as the minimum amount. Interest rates, repayment structures, and collateral requirements are determined by the PFIs (IPOS, 2020). The main financial institutions involved as PFIs include DBS Bank Ltd, Evia Capital Partners Pte Ltd, Oversea-Chinese Banking Corporation (OCBC) Ltd, Resona Merchant Bank Asia Limited, and United Overseas Bank (UOB) Ltd.

Beyond these five banks, the Singaporean government also encourages startups to seek financing through crowdfunding platforms, such as FundedHere (fundedhere.com), where loans are granted more quickly, though typically at higher interest rates than those offered by banks. In addition, Singaporean firms can access financing through equity investment and government co-investment programs, such as the “Business Angel Scheme” (BAS) and the “SPRING Startup Enterprise Development Scheme” (SEEDS), both managed by SPRING SEEDS Capital (SC), a subsidiary of SPRING Singapore specialized in investments. Although other venture capital funds exist, they are not explicitly dedicated to intellectual property (IPOS, 2021a).

The Venture Debt Programme (EFS-VDP), launched by Enterprise Singapore, a government agency, is another initiative that facilitates access to financing for innovative companies by leveraging their intangible assets (GIOUW, 2016). Through the EFS-VDP, the government shares risks with private financial institutions, thereby encouraging banks and other entities to extend loans to these companies, which are generally considered high-risk.

Companies holding intangible and IP assets in Singapore can access resources through (i) equity financing, (ii) debt financing, and (iii) government subsidies. However, intellectual assets and IP typically lack characteristics that make them attractive collateral to lenders, such as liquidity, standardized valuation methods, and stable value over time. For creditors, the ability to assess the realizable value of such assets in case of default is essential. In Singapore, uncertainty persists among banks regarding IP valuation methodologies, the liquidity of these assets, and their potential for sale in default situations—challenges that are compounded by a lack of familiarity with this asset class.

Current internal processes and banking regulations are not yet adequately adjusted to incorporate intangible assets and IP as common collateral, as would be the case with traditional credit risk assessments. This limitation is further reinforced by the fact that the international regulatory framework for financial institutions, particularly the Basel III requirements, does not recognize intangible assets and IP as eligible collateral for reducing banks’ capital reserve requirements against risk.

Basel III, created by the Basel Committee on Banking Supervision, was introduced after the 2008 financial crisis to strengthen global banking regulation. Among its measures are stricter capital requirements, the implementation of capital buffers, the improvement of capital quality, and the adoption of liquidity standards to ensure that banks can withstand financial and economic shocks (BIS, 2023).

In addition, many banks lack robust internal capacity to evaluate intangible assets and intellectual property, which leads them to rely on external experts to determine the actual value of such assets. Beyond the additional costs generated by this dependence, there is a widespread lack of confidence in the acceptance of external valuations of intangible and IP assets, due to inherent risks. The complexity increases when dealing with different IP legislations across countries, especially as businesses expand globally. Each type of technology carries unique characteristics that demand specific expertise for proper valuation. To further complicate matters, the underlying technologies of IP assets, such as patents, evolve rapidly and may suffer premature obsolescence, adding further uncertainty to the process (DUFF & PHELPS, 2019).

Case studies:

In 2016, the footwear company Masai obtained a loan from Singapore's DBS Bank through the IPFS, using its portfolio of Industrial Designs (IDs) for footwear as collateral. This milestone is recognized as the first loan secured by Intellectual Property in Singapore's history. Masai used the funding to expand its global operations and strengthen its research and development activities.

Subsequently, other cases of loans backed by IP emerged, such as Aslan Pharmaceuticals, which pledged its portfolio of cancer drug patents as collateral to secure a US\$5 million loan from United Overseas Bank (UOB). This financing enabled the company to advance its clinical research.

TAIWAN

The government of Taiwan founded, in 1973, the renowned Industrial Technology Research Institute (ITRI), a science and technology institution that gave rise to companies such as United Microelectronics Corporation (UMC) and Taiwan Semiconductor Manufacturing Company (TSMC), which are now global giants in the technology sector. In particular, TSMC is currently the world's largest chip manufacturer, responsible for about 60% of global production, supplying chips to virtually every country and industry across multiple sectors.

Article 13 of the Statute for Industrial Innovation in Taiwan aims to stimulate several aspects, including the valuation of intangible assets (MOEA, 2010). However, despite this incentive, many challenges remain, such as the lack of a consolidated database for patent valuation and regulatory restrictions within the financial sector.

To assist companies in presenting the value of intangible assets derived from industrial innovations, the central competent authorities invite relevant agencies to address the following issues:

- Formulation and implementation of standards for valuation services.
- Establishment and management of valuation databases.
- Training and development of valuation professionals, as well as creating mechanisms to register and manage personnel and valuation institutions.
- Promotion of investment or financing with intangible assets, securitization transactions, insurance, completion guarantees, and other related matters.

The central authority responsible for the relevant industries may provide subsidies to certified or registered intangible asset appraisers and institutions for their valuation activities in accordance with the law. Appraisers and institutions receiving such subsidies must register their

The evaluation data of projects subsidized must be registered in the information service systems designated by the central competent authority. The criteria for conducting evaluations under Subparagraph 1, Paragraph 1, the application of such criteria, the measures for promoting the creation and management of databases under Subparagraph 2, Paragraph 1, and other related matters shall be prescribed by the central competent authority in consultation with the competent financial authorities and other relevant agencies. The scope and terms of registration of valuation professionals and institutions under Subparagraph 3, Paragraph 1, the method of applying for such registration, the matters to be reviewed, the obligation of such professionals and institutions to cooperate, the management measures and rules for revoking or invalidating the registration, and other relevant matters shall be prescribed by the central competent authority in consultation with the relevant agencies. The matters to be promoted under Subparagraph 4, Paragraph 1 shall be prescribed by the central competent authority in consultation with the competent financial authorities and other relevant agencies.

In 2011, the “IP Bank” was created through an initiative of ITRI, with the aim of establishing a database to facilitate the commercialization of intellectual property assets in Taiwan. In 2019, ITRI, in partnership with Taiwan Business Bank and the SMEG Fund, implemented guidelines to create connections between capital and technology markets, using the valuation of intangible assets as the basis for expanding financing. The goal was to encourage financial institutions to consider patents as collateral for capital financing and credit guarantees (ITRI, 2019). The companies ATOM Health Corp., Trust Bio-sonics, and Yi-Hong Electronic were the first in Taiwan to obtain patent-based financing, receiving a total of NT\$ 25 million under preferential conditions. This marked a breakthrough against the prevailing conservative model, in which startups relied solely on loans based on available credit in the market.

To support the “Project of Value Advancement for Intellectual Property”, announced by the government in May 2019 (IDA, 2024), the Taiwan Business Bank issued regulations governing the “Income-generating Mezzanine Financing of Intangible Assets.” This financing targets small and medium-sized enterprises as well as startups, in collaboration with ITRI and the SMEG Fund. Mezzanine financing refers to an intermediate form between lower-risk debt and higher-risk equity investment. Under this model, upon meeting certain conditions, the lending bank can convert the debtor’s IP rights into equity participation in the borrowing company. In practice, the bank not only collects interest from lending money but also has the right to convert the IP rights into equity in the company at a pre-agreed conversion rate, in the event of default or after a set period.

This debt-to-equity conversion mechanism allows creditors to accelerate the application process with simplified due diligence formalities, while companies gain access to financing with fewer collateral requirements (WANG, 2024).

In 2020, ITRI initiated a collaboration with the SMEG Fund and 26 other banks, launching the “Patent Financing Evaluation Guarantee” and “Value-added Technology Financing Value Preservation” projects. These initiatives aim to connect the technologies developed in Taiwan to capital markets, facilitating access to financing. So far, these initiatives have mobilized around NT\$ 200 million (approximately US\$ 6.26 million).

Although Taiwan does not yet have specific legislation regulating the use of IP assets as collateral for loans, the practice is encouraged through agreements between the parties, based on the Civil Code of Taiwan and the Act Governing Secured Transactions on Movable Property (AGSTMP, 2007). Specialized companies in the valuation of intangible assets provide consulting services to ITRI or the banks involved, such as Taiwan Business Bank, enabling loans of up to 90% of the calculated value of the intangible asset. Some of the main companies providing these IP valuation services in Taiwan include TEJ, KROL, Deloitte Taiwan, Cushman & Wakefield Taiwan, Courage IP, AON, PwC, and ITRI itself.

However, it is worth noting that, so far, there is no global uniformity in the calculation of intellectual property intangible assets is not yet standardized, with various methods currently being used to measure assets of the same nature.

INDONESIA

In Indonesia, IP Finance gained momentum after the enactment of Government Regulation Number 24 (GR 24/2022), published in 2022 and in force since July 12, 2023. This regulation establishes the mechanisms through which intellectual property rights (patents, trademarks, and copyrights) can be used as collateral for obtaining loans or financing from financial institutions, whether banking or non-banking (KARIM, 2022). The schemes provided are:

(i) Schemes executed by financial institutions, banking or non-banking; and (ii) Alternative schemes.

To enable the banking financing process, GR 24/2022 further details the use of intellectual property rights as collateral, which can be offered in the following forms:

a) fiduciary security; b) licensing agreements and service contracts or service orders; and c) collection rights over royalties.

According to the regulation, only IP rights that are individually managed or managed by third parties and duly registered with the Ministry of Law and Human Rights of Indonesia are eligible to be used as collateral for loans.

Regarding the valuation of intellectual property intangible assets, GR 24/2022 recommends at least three main approaches:

a) the cost approach, b) the market approach, and c) the income approach.

However, the Indonesian government does not restrict the use exclusively to these methods, allowing the adoption of other valuation techniques for intangible IP assets, as applicable in the country.

In addition to GR 24/2022, Indonesia also has Law No. 42 of 1999 (Art. 1, Paragraph 1) on Fiduciary Guarantees. In this law, the concept of fiduciary refers to the transfer of ownership rights of an asset based on trust, allowing the object whose ownership is transferred to remain under the control of the original owner. The Fiduciary Guarantee covers security rights over movable assets, both tangible and intangible, as well as immovable property that cannot be encumbered by Mortgage Rights. In this way, the legislation facilitates the commercialization of intellectual property rights in the country (AFFA, 2024).

MALAYSIA

In 2013, the Malaysian government launched a program aimed at Small and Medium-sized Enterprises (SMEs) with the goal of expanding their businesses through the development and use of their intellectual property as collateral for obtaining loans (APEC, 2018). Malaysia's "IP Financing Scheme" (IPFS) made available a fund of RM 200 million (approximately USD 46.6 million), managed by MDV. In addition to this fund, the program offers an interest rate subsidy of 2% and a 50% guarantee provided by Credit Guarantee Corp Malaysia Bhd.

In the same year, the government instructed the Malaysian patent office, the Intellectual Property Corporation of Malaysia (MyIPO), to establish a team of IP asset valuers, with support from WIPO and the University of Bern, Switzerland. A total of 23 evaluators were selected, while excluding any MyIPO staff from the training process and subsequent evaluations, in order to avoid conflicts of interest. Thus, MyIPO does not directly participate in IP asset valuation.

The main features of Malaysia's IPFS are:

- a) financing of up to RM 10 million or 80% of the IP value, whichever is lower;
- b) financing term of 5 years, including up to 12 months of grace period;
- c) a 50% guarantee provided by the government, administered by Credit Guarantee Corporation Malaysia Berhad; and
- d) support from MDV as a financier of innovative technologies (APEC, 2018).

In light of the various methods for valuing intangible assets, the Malaysian government adopted a standardized model called the “IP Valuation Model” (IPVM). This model was developed in collaboration with four venture capital firms, four banks, and the Ministry of Finance, taking into account international standards such as IFRS, the International Valuation Standards (IVS), and the International Organization for Standardization (ISO). The IPVM serves as a reference for lenders and financiers, providing a standardized method for valuing intellectual property (IP) intangible assets used as loan collateral.

To further promote the use of IP assets as collateral, Malaysia enacted the Industrial Designs Act 2013, which came into effect on July 1, 2013. This legislation allows industrial designs to be used as collateral in the same way as tangible assets. In addition, in 2015, the Malaysian government launched the Roadmap for Intellectual Property Monetization 2015–2020, a strategy aimed at transforming IP assets into a new source of wealth and driving the country’s economic development (MARDITIA, 2023).

AUSTRALIA

The most relevant program identified within the Australian government is the Early Stage Venture Capital Limited Partnerships (ESVCLP). The ESVCLP is a governmental instrument that encourages venture capital investors—such as banks, life insurance entities, widely held superannuation funds, and widely held foreign venture capital funds of funds—to invest between US\$10 million and US\$200 million in early-stage companies. In return, it offers tax benefits to both investors and fund managers. This program is jointly administered by the Department of Industry, Science, Energy and Resources and the Australian Taxation Office (ATO) on behalf of the Australian government. Once approved, the ESVCLP can make venture capital investments in small businesses or investment funds at development stages such as pre-seed, seed, startup, and early expansion, for a minimum period of 12 months. During the evaluation process, the ESVCLP committee considers the proportion of Intellectual Property in relation to total assets, as well as the guarantees (collateral) offered for the loans. However, it is not mandatory that the collateral provided be exclusively an intangible asset, as tangible assets can also be included.

Although Australia does not have a specific law or government program that directly encourages the use of Intellectual Property as collateral for investments, there is a consolidated practice within the private sector involving the use of patents as security, attracting investors such as banks and financial groups. Notable examples include:

- a) Cochlear Limited (biotechnology and medical devices), which used its patents to secure investments from the Commonwealth Bank of Australia, Macquarie Group, and Bain Capital. With this support, Cochlear became an Australian leader in hearing implants, expanding its global reach;
- b) ResMed, one of the leading companies in devices for the treatment of respiratory disorders, which used its patents and IP as collateral to obtain financing and grow in global markets. The company secured funding from private equity firms such as Kohlberg Kravis Roberts & Co. (KKR), as well as credit from institutions such as ANZ Bank and Westpac, which evaluated its IP assets as the basis for lending;
- c) Vaxxas, a startup that used its vaccine patents to attract funding from venture capital firms such as OneVentures and Brandon Capital Partners, boosting its growth and innovation.

These examples demonstrate that, even without specific legislation, the private sector in Australia recognizes the value of IP as a strategic asset to secure investments and expand operations.

2.3. EUROPE

Europe faces significant challenges in unlocking the potential of IP finance, reflecting a scenario marked by the rigidity of the Eurozone and the centralization of the banking market. These structural factors create barriers to the adoption of more flexible financial models, especially when compared to more dynamic markets such as the United States or some Asian countries. The centralization of the European banking system, combined with standardized and often conservative financial regulations, makes it difficult to integrate intangible assets, such as intellectual property, into the list of accepted collateral. In addition, the absence of robust secondary markets for IP assets and the lack of standardized valuation practices reinforce banks' reluctance to explore new financing possibilities. In this context, Europe remains at an early stage in the development of policies and practices that could make IP finance a viable tool to foster innovation and the growth of technology-intensive small and medium-sized enterprises.

UNITED KINGDOM

In Europe, there are still no concrete cases of IP finance, and in the United Kingdom — one of the continent's leading countries — the use of intellectual property as financial collateral remains incipient. The report "Unlocking IP-backed Financing: Country Perspectives – The United Kingdom's Journey", part of WIPO's series on IP-backed financing, provides an overview of the financial landscape in the country regarding these assets. The document discusses the types of financing available for intellectual property, the regulatory and operational challenges that limit the use of IP as collateral, the role of the government, and the plans to expand access to financing for small and medium-sized enterprises (SMEs) based on these assets.

It is estimated that 70% to 80% of companies' value in the UK is made up of intangible assets, including IP. A steady increase has been observed in trademark and design filings at the Intellectual Property Office (IPO). In 2022, almost 19,500 patent applications, more than 67,000 design applications, and more than 158,000 trademark applications were filed. In 2020, investment in intangible assets exceeded £134.5 billion. This predominance of intangible assets reflects the strategic importance of IP as a competitive advantage, contributing to the UK's position as one of the top four countries in the Global Innovation Index. The UK Government's Innovation Strategy seeks to encourage increased investment in innovative companies with intangible assets, including IP, as part of a broader national goal of maintaining and strengthening its global leadership position in innovation.

The focus on intellectual property as a lever for financing SMEs in the UK is based on its importance to the national economy: they represent over 99% of businesses in number and contribute 50% of private sector turnover. Within this group, there is a particularly innovative and IP-intensive subset, growing above the average. Although they represent less than 1% of the country's businesses, high-growth SMEs add around £1.2 trillion to the economy, accounting for half of the total turnover of SMEs. This scenario highlights a substantial potential to generate significant economic returns, especially if growth capital flows can be better directed.

The British Business Bank (BBB), a government development institution, publishes the annual report "Small Business Equity Tracker", which analyzes the equity finance landscape for small businesses. The 2023 report revealed that technology and IP-based companies continue to attract the largest share of investments in the UK, totaling £7.6 billion across 1,014 transactions in 2022 — representing growth of 47% in investment and 4% in transactions compared to 2020. Sectors such as software and life sciences stand out, with the software sector capturing 63% of transactions and 57% of investment, accounting for 53% of total technology investment in the past year. Clean technology also stands out, showing a 53% increase in investments in 2022 compared to the previous year, which suggests continued growth in the future.

The main source of financing for most SMEs in the United Kingdom is still the banking sector. In recent years, the British market has experienced remarkable financial innovation, with greater diversity in the provision of bank financing. In 2022, according to the BBB, 55% of new net credit to SMEs came from challenger or specialist banks, rather than from the traditional “Big Five” banks.

Although all SMEs in the UK are required to disclose certain accounting information annually, they are not subject to the same statutory reporting requirements that apply to large corporations, resulting in limited public availability of detailed financial data. For most of these companies, the balance sheet must be prepared in accordance with the Financial Reporting Standard (FRS), in which the value of intangible assets may only be partially reflected.

In addition, to ensure that the notification mechanism is adequate, collateral must be registered together with the IP rights at the appropriate authorities, which may include international registries. In the UK, this is done through specific forms: TM24 for trademarks, Form 21 for patents, and DF12A for registered designs. Given the broad spectrum of contexts in which the value of IP can be useful and the variability of the available data, valuers often use a combination of approaches to obtain more accurate results. These practices are well documented by the International Valuation Standards Council (IVSC), particularly in Standard IVS 210, which addresses intangible assets. Although the IVSC does not have a regulatory role, its standards are widely followed by reputable valuers. Additionally, professionals may choose to join RICS, which promotes good valuation practices and provides supplementary guidance on IP valuation, including an IP supplement to the Red Book.

A relevant financing structure based on intellectual property has been developed by lenders such as Coutts & Co., which specialize in providing financial support for media companies, especially film production firms. In this model, the script, protected by copyright, is included as part of the loan collateral, along with a completion bond that ensures the continuation of production even in case of failure by the original team. Similar approaches can be applied to music and film catalogs, which can serve as collateral depending primarily on the royalty flows they generate. In practice, these financings are essentially cash flow-based loans, with additional collateral that increases security for lenders.

In addition, Creative UK provides financial support for creative businesses registered in the UK with high growth potential. The aim is to foster the creation of new IP assets in the creative industries, with loans ranging from £100,000 to £1 million. In collaboration with Triodos Bank, Creative UK launched the Creative Growth Finance II fund in September 2023, with a total of £35 million dedicated to strengthening financing for companies in the creative sector.

The UK report highlights future actions involving the Department for Science, Innovation and Technology (DSIT) and the IPO. As the main government department responsible for driving innovation in the UK, DSIT seeks to improve public services, create well-paid jobs, and foster economic growth. Supported by 15 agencies and public bodies, including the IPO, UK Research and Innovation (UKRI), and the UK Space Agency, DSIT leads initiatives such as the newly launched UK Science and Technology Framework and the UK Innovation Strategy. This science and technology framework aims to ensure a supply of capital that covers all stages of development for innovative companies, fostering an ecosystem capable of elevating the next generation of competitive firms on the global stage.

The strategy also emphasizes the need to strengthen financial markets so that intangible assets, such as IP, are properly valued in credit decisions.

The UK IPO Corporate Priorities for 2023–2024 include a review of its approach to supporting innovative SMEs, with a focus on maximizing their IP assets (Priority 4). This review involves collaboration with industry, other government departments, and international partners, such as WIPO, to explore recent innovations in IP-backed financing and to identify areas in which the IPO could intervene in the future to support innovative companies in raising funds based on their IP assets. Furthermore, the UK IPO has committed to collaborating with regional development organizations, IP professionals, and SMEs, with the goal of

developing a sustainable and impactful financial support policy for SMEs that adds both value and relevance to economic growth.

HSBC UK announced a £250 million asset fund in 2022 to support growing technology companies. The Growth Lending product targets firms with revenues above £7 million and sales growth of 20% or more over the past two years, which have raised at least £25 million in equity, offering loans of up to £15 million.

In 2023, NatWest launched a new financing product ranging from £250,000 to £10 million, based on the value of IP assets offered as collateral, subject to the borrower's repayment capacity analysis. The process of identifying, assessing, and valuing these assets is conducted by Inngot through an online platform. The loan conditions include a one-off fee for ongoing monitoring, paid at the time of disbursement, in addition to the client's commitment to participate in an annual IP revaluation process.

The Inngot toolkit used in these processes consists of: Goldseam, an IP identification tool; Sollomon, a valuation system that estimates IP value for lending purposes; and Hallmarq, a tool for analyzing the suitability of assets as collateral. This set of tools costs less than £1,000 and allows the bank to verify the strength and adequacy of IP as loan security. Additionally, the client pays an annual fee of 0.4% (including VAT) to cover the due diligence checks required by NatWest throughout the loan, including annual IP reassessments.

Case studies on Inngot's website showcase examples of companies that have used their intellectual property as collateral to secure financing from NatWest, supported by the Goldseam, Sollomon, and Hallmarq tools:

1. Propello Cloud: A Manchester-based scale-up that developed a software platform to create customized B2B and B2C reward and partnership programs. Propello Cloud secured a £250,000 loan from NatWest using its intellectual property as collateral. (Source: [Inngot Case Study](#))

2. LoveAdmin: A software platform focused on administrative automation and payment collection for children's activities, sports clubs, and membership organizations. LoveAdmin used its IP as collateral to secure £250,000, intended for working capital, staff hiring, and marketing. (Source: [Inngot Case Study](#))

3. EarthSense: A company providing air quality monitoring and management solutions. With the goal of expanding internationally and strengthening its IP, EarthSense secured £264,000 in financing. (Source: [Air Quality News](#))

4. Sci-Net Business Solutions: A specialist in ERP solutions and cloud infrastructure, Sci-Net helps large retailers and distributors integrate core business processes. With an annual growth of 30%, the company secured £700,000 in financing by using its IP as collateral. (Inngot Case Study)

5. SixFive: A provider of SMS traffic optimization solutions, with a global network connecting 500 companies across 1,200 mobile networks. SixFive secured a £1,000,000 loan, using its IP as collateral to obtain financing. ([Inngot Case Study](#))

These cases demonstrate how the use of intellectual property as collateral can enable substantial financing, allowing IP-rich companies to secure resources to expand their operations and invest in innovation.

This chapter addresses the main challenges related to the use of intangible assets as collateral for financing, highlighting both theoretical and practical difficulties, while also exploring pathways to overcome these barriers within the economic and regulatory context.

3.1. WHAT ECONOMIC THEORY SAYS

Intangible assets have unique characteristics that hinder their use as collateral for obtaining loans. However, the problem does not lie in the innovation system itself, but rather in the banking market. IP assets are difficult to value, and valuation is carried out in different ways by different agents. Thus, there is no harmonization in valuation methods. A second related problem is the absence of a secondary market where intangible assets can be traded. Consequently, and intrinsically related to the second issue, there is the problem of liquidity, that is, the speed with which an intangible asset can be converted into cash without significant loss of value.



In parallel with the lack of harmonization in IP asset valuation methods, the absence of a secondary market for IP trading, and the lack of liquidity of IP assets, the banking market is inherently conservative, constantly creating rules for the financial system to reduce risk and avoid systemic contagion.

Thus, the hypothesis arises that the given problem—the rejection of intangible assets as collateral for debt financing, or the difficulty in accessing financing for companies holding portfolios of intangible assets—characterizes a market failure, most notably information asymmetry. Asymmetric information occurs when one party has more information than the other in a negotiation.

The market in which information asymmetry occurs can be exacerbated by the phenomenon known as adverse selection. According to Mas-Colell (1995), “adverse selection arises when the trading decisions of an informed individual depend on their private information in a way that adversely affects uninformed market participants” (our translation). In the presence of adverse selection, the less informed party will act cautiously when dealing with a more informed party who wishes to transact with them, and their willingness to pay for the product will be low. The result is the attraction of other agents to the market offering low-quality products.

Akerlof (1970) shed light on this problem in his seminal article “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism.” As mentioned in the title of the article, the most common example of adverse selection occurs in the used car market. If the offered price for a used car is too low, it attracts genuinely poor-quality cars—the so-called “lemons.” The outcome would be a used car market with few transactions when adverse selection is present.

Adverse selection is a pre-contractual phenomenon, occurring before a contract is established between the parties. It derives from the opportunistic behavior of one of the negotiating parties, as this party possesses more detailed information about the nature of the product being placed on the market. Thus, adverse selection generates Pareto inefficiency in the market. In the presence of information asymmetry in a competitive market, the market equilibrium often fails to achieve Pareto optimality. There are cases in which the central authority is not able to observe the agents' private information as well as the agents themselves.

According to Mas-Colell (1995), with the aim of achieving a Pareto improvement in market transaction outcomes, a central authority that knows the private information of agents may intervene in the market by establishing lump-sum transfers between market participants.

To prevent the occurrence of the adverse selection phenomenon, it is necessary to establish mechanisms to reduce information asymmetry.

One of the main mechanisms to combat adverse selection is signaling, first studied by Spence (1973 and 1974). It consists of the issuance of signals, most notably the disclosure of private information by the party that holds more knowledge. On the other side, the less informed agent accepts this private information as truthful. The classic example of signaling occurs in the labor market. When a firm posts a job offer, it does not know the innate ability or productivity of the worker as the worker does. Because the firm cannot observe the worker's productivity, it offers lower wages, thus attracting candidates with lower productivity. Signaling occurs when a highly skilled worker reveals information about his or her unobservable knowledge to the hiring firm, in order to distinguish themselves from less skilled counterparts.

A simple way for a worker to reveal their type occurs when they undergo a costless test. A worker who does not participate in the test would be considered no better than the lowest-quality type. In this case, by choosing a higher level of education, the more informed individual signals to the less informed firm that they are a high-ability worker.

On the other hand, the term screening is used to describe the situation in which agents who lack complete information take proactive measures to obtain it, thereby mitigating the problem of information asymmetry. The first to study this subject were Rothschild (1976) and Wilson (1977). A classic example occurs when less informed firms make job offers to better-informed workers, or in a scenario where those informed workers themselves propose contracts to companies.

Returning to the classic example of the used car market, Brazil has adopted an innovative solution: the "FIPE Table," an effective tool to address information asymmetry in the automotive market. Created in 1985, it serves as a reliable reference for vehicle prices in the country. The table is updated monthly and takes into account a series of factors, such as year of manufacture, brand, model, version, mileage, and the vehicle's condition. The indicated value reflects the average market price for a given period, based on collected data, and is widely used by both buyers and sellers to define a fair price.

In the field of finance, the crucial importance of the secondary market stands out as a fundamental practice. The financial market is divided into two main parts: the primary market and the secondary market. In the primary market, companies decide to go public through an IPO, raising funds by issuing new securities and shares, usually in large-scale operations involving banking institutions. The secondary market, in turn, emerges as the environment for trading these securities and shares, providing important benefits such as liquidity, portfolio adjustment, efficient pricing, and investor access to a diversity of assets. The existence of the secondary market, in addition to facilitating access to different investment opportunities, contributes to transparency and to the fair valuation of assets, playing a fundamental role in the efficiency and dynamism of the financial system, both domestically and internationally.

A clear example of a sector that operates without a formally structured secondary market is the real estate market. However, since real estate is a tangible asset, property transactions occur with relative ease, especially through online platforms. In Brazil, several websites facilitate the offering and search for real estate, such as OLX, Zap Imóveis, Viva Real, and Quinto Andar, directly connecting sellers and buyers and fostering a more accessible environment for property transactions.

In addition to the challenge of developing a secondary market, the Brazilian credit market faces a problem of information asymmetry between banks and clients, which generates distortions in interest rates: reliable borrowers end up paying more, while riskier borrowers obtain less restrictive conditions. This scenario stems from the difficulty banks face in accurately identifying borrowers' creditworthiness, even when using credit scoring models. For instance, a borrower in financial distress may accept high interest rates without realistically assessing their ability to honor the contract. Although detailed analyses could clarify each client's risk profile more precisely, they would generate high costs and still be relatively ineffective, especially because less reliable borrowers may omit information that could result in stricter conditions or higher rates.

Within the credit market, the situation is even more challenging when it comes to using industrial property rights as collateral for loans. This is mainly due to the inherent characteristics of intangible assets.

As discussed in Chapter 1, the limited use of intangible assets as collateral for financing in Brazil is linked to the adoption of international banking guidelines, such as the Basel recommendations. This global issue reflects banks' reluctance to accept intangible assets as collateral due to regulatory requirements and the challenges of risk measurement. In the Brazilian context, CMN Resolution No. 4,966/2021 establishes guidelines aligned with IFRS 9 and CPC 48, improving financial risk analysis and the calculation of provisions for non-performing loans, with criteria that include the liquidity and present value of recoverable collateral, also considering the impact of economic conditions.

In the case of intangible assets, particularly those related to industrial property, there are characteristics that limit their use as collateral for loans, mainly due to the difficulty of standardized valuation and the absence of a secondary market. This makes such assets less liquid and reduces their effectiveness as guarantees. As a result, intangible assets proposed as collateral in financial operations are generally not considered in the calculation of expected credit losses, and therefore do not contribute to the capital reserves that banks must maintain to ensure their soundness and ability to withstand financial crises or economic shocks.

A study by the Central Bank of Brazil (2019) on the impact of collateral on interest rates applied to personal loans revealed that operations backed by some type of protection have considerably lower interest rates compared to unsecured transactions. For example, in the non-payroll-deducted personal loan modality, interest rates for unsecured transactions can be as much as 92.3 percentage points higher than those for collateralized operations.

In addition, the study points out that the quality of the collateral—factors such as liquidity, ease of valuation, and legal certainty in enforcement—has a direct impact on the recovery value obtained by financial institutions in cases of default. More robust guarantees help mitigate risks in operations and thus allowing the interest rates charged to borrowers to be reduced. From what we have seen so far, the same applies to legal entities.

Intangible assets, such as patents and trademarks, present characteristics that create challenges and uncertainties for their use as collateral in credit operations. For example, a patent holder has deep knowledge of the value and applicability of the asset, including an understanding of the patent's utility and its likelihood of being traded in the market. However, this information is generally not shared with financial institutions, generating an asymmetry that hinders the use of patents as collateral, especially due to the uncertainties associated with the valuation and liquidation of assets. In addition, trademarks, although valuable, face legal risks, such as the impediment of enforcement in case of seizure if they are deemed essential to the company, and are often registered under the names of individuals rather than companies, which makes their use in financial transactions more difficult.

Another important obstacle is the lack of efficient mechanisms to curb unfair competition and unauthorized use of these assets. The absence of adequate enforcement, combined with the scarcity of criminal classification for intellectual property infringements, undermines the strategic value of intangible assets, reducing their attractiveness as collateral. In the case of patents, the proliferation of illegal copies and the lengthy wait for granting make the return on investment in protection against unauthorized use unfeasible. The shortage of qualified professionals to carry out the valuation of these assets further aggravates the scenario, making IP-based credit a complex and bureaucratic procedure.

To transform intellectual property into a viable asset in the credit market, it would be essential to regulate the out-of-court enforcement of these assets, simplifying procedures and encouraging their use in financing operations. The creation of a secondary market for trading intangible assets is another challenge, as there is already complexity even in the sale of tangible assets. Only with an adequate structure and legal certainty will it be possible to consolidate the use of IP as collateral for credit, expanding the utility of these assets within the economic landscape.

3.2. LESSONS AND SUGGESTIONS

Banking rules established by the BIS, widely followed by financial institutions around the world, are identified as the main obstacle to the advancement of IP finance — intellectual property financing — on a global scale. These guidelines, which primarily aim to ensure the stability and security of the financial system, impose restrictions that hinder the use of intangible assets, such as patents and IP rights, as collateral for loans. However, although the issue has a global scope, the solutions have been developed locally, adapting to the specific context of each country.

Even without changing existing legislation, it is possible to envision a range of solutions for the use of IP as collateral, from simpler alternatives to more complex approaches. In the United States, for example, the innovative market tradition has allowed the use of patents and other IP rights as collateral since the late 19th century. This use has expanded significantly since the 1980s, with increasing records of patents on the USPTO website. An interesting feature of the American approach is the IP rights registration system, which allows for the registration of different types of limitations and restrictions with terms of up to five years, facilitating transparency and control over the IP assets involved in financial transactions.

In Canada, on the other hand, the development of a dedicated fund to finance intangible assets demonstrates a vertical and well-structured approach. The Business Development Bank of Canada (BDC) is responsible for conducting the entire process, which involves receiving company information, analyzing maturity and specific capital needs, and carrying out the valuation of IP rights. In this context, the BDC takes on the central role, instead of the CIPO, which does not act directly in financing with IP as collateral. This methodology highlights the importance of a dedicated and experienced financial institution in valuing intangible assets, separating this function from the traditional roles of the IP office.

In Asian countries, especially Japan and South Korea, the structure of financing with IP as collateral is horizontal and involves multiple actors. The initiative to unlock IP finance in these countries has seen strong participation from the public sector, which has mobilized efforts to engage various institutions and facilitate the participation of banks, government agencies, and other stakeholders. This collaborative and integrative approach has proven effective in promoting the use of IP as collateral, unlocking new forms of financing. This model has served as an example for countries in the early stages of developing IP finance, such as the United Kingdom, which still faces challenges in structuring an efficient and functional system.

While the restrictions imposed by the BIS represent a barrier to IP finance, the analysis of different national approaches reveals that there are viable and adaptable paths to integrate IP assets into the financial system. Local solutions, tailored to the regulatory environment and the economic needs of each country, are essential to foster the development of this market, offering an encouraging outlook for the financing of intangible assets.

Unlocking IP-based financing depends on a series of interconnected factors that ensure security and viability of the process. First, a robust legal and regulatory framework is essential to guarantee that IP-based financing can be effectively implemented, respecting rules and practices that protect both creditors and debtors.

In addition, it is crucial that IP rights are properly recorded in companies' financial statements, recognizing these intangible assets as part of their equity. For this process to be reliable, accurate IP valuation is necessary, providing assurance regarding the value of these assets in financial transactions. The creation of a market in which IP can be traded and used as collateral is another key element, as it enables the movement of these assets in a manner similar to other capital markets. Furthermore, the establishment of a dedicated fund for IP-based financing, along with the implementation of other support measures, strengthens the necessary structure for the consolidation of IP finance.



STRUCTURAL AND LEGAL ADJUSTMENTS TO ENSURE SECURITY AND TRANSPARENCY IN TRANSACTIONS

The effective implementation of an Intellectual Property (IP)-based financing system in Brazil requires a series of structural and legal adjustments to ensure security and transparency in transactions. Transparency is a key point, as it allows for a clearer assessment of the risks involved, which, in turn, can reduce the cost of credit. The recognition of IP as collateral is equally essential, enabling rights such as patents and trademarks to be used as loan guarantees, provided they are duly recorded in the IP registers. In the United States, for example, the registration of IP rights used as collateral has a specific validity period of five years. This American example serves as a reference for Brazil to establish similar deadlines and annotation methods, thereby strengthening legal certainty in financial operations.

At the Brazilian National Institute of Industrial Property (INPI), the registrations made regarding IP assets with respect to limitations or encumbrances due to loan guarantees using IP rights with financial institutions are as follows:

- a) Patents: petition "260.10" ("Registration of limitation or encumbrance"). However, for this petition, there is no standardized documentation that must be submitted, and applicants are therefore advised to provide any documents they deem relevant for the publication of the registration, which must include a sworn translation, notarization, and consular legalization or Apostille (for foreign-origin documents);
- b) Industrial Designs: "GRU 154" (Registration of limitation or encumbrance, created in October 2023, as part of the IPAS project). As of 10/17/2024, there are no records of "GRU 154" in the INPI PAG system;
- c) Trademarks: service code 380 (petition for Registration of limitation or encumbrance);
- d) Layout Designs of Integrated Circuits: code 548;
- e) Computer Program Listings: code 109 (Registration of limitation or encumbrance).

Figure 9: Basic Patent Search Interface

The screenshot shows the USPTO Patent Public Search Basic (PPUBS Basic) interface. The top navigation bar includes links for Patents, Trademarks, Fees and payment, Contact Us, MyUSPTO, and Sign in. The main heading is 'Patent Public Search Basic (PPUBS Basic)'. Below this, there are two main search sections: 'Quick lookup' and 'Basic search'. The 'Quick lookup' section has a search box with the placeholder text 'Patent or Publication number' and a 'Search' button. The 'Basic search' section has a search box with the placeholder text 'Everything' and a 'For' dropdown menu. To the right of the search sections is a 'Query building guidance' sidebar. This sidebar contains instructions on how to use the search interface, including examples of search terms and formatting rules for searching. The formatting rules include: 1. One word per text box, and 2. If using the Patent/Application Publication number field, add leading zeros. Examples provided are: 'Before Patent Numbers with 6 digits or less to make 7 total digits' and 'ex: 123456 should be entered as 0123456' and 'ex: 12345 should be entered as 0012345'.

Source: Author's elaboration

Figure 10: Patent Assignment Search

USPTO Patent Assignment Search

Search: security interest

119,275 results for "security interest"

Reel/frame	Execution date	Conveyance type	Assignee (Owner)	Patent	Publication	Properties
068804/0366	Oct 4, 2024	SECURITY INTEREST (SEE DOCUMENT FOR DETAILS)	PNC BANK, NATIONAL ASSOCIATION	9488229	20150205370	15
068805/0679	Oct 3, 2024	SECURITY INTEREST (SEE DOCUMENT FOR DETAILS)	MIDCAP FINANCIAL TRUST, AS AGENT	NONE	20230149982	5
068789/0005	Oct 3, 2024	SECURITY INTEREST (SEE DOCUMENT FOR DETAILS)	TRIPLEPOINT PRIVATE VENTURE CREDIT INC.	NONE	20240220319	24
068785/0640	Oct 3, 2024	SECURITY INTEREST (SEE DOCUMENT FOR DETAILS)	GLOBAL VENTURE PARTNERS FUND II, LP	NONE	20230403311	4

Source: Author's elaboration

Figure 11: Registration Type Filter

Conveyance type

- ☐ SECURITY INTEREST 40972
- ☐ ASSIGNMENT OF ASSIGNOR'S INTEREST 32968
- ☐ LIEN 699
- ☐ COURT ORDER 109
- ☐ RELEASE BY SECURED PARTY 87
- ☐ CONDITIONAL ASSIGNMENT 87
- ☐ LICENSE 62
- ☐ CHANGE OF NAME 35
- ☐ MERGER 19
- ☐ MORTGAGE 18
- ☐ NUNC PRO TUNC ASSIGNMENT 1
- ☐ MERGER AND CHANGE OF NAME 1

Show less

Submit

Source: Author's elaboration

Figure 9 illustrates the search for patent data on a website. Figure 10, in turn, shows the search for assignment registrations on patents. A similar search function is also available for trademarks. Within the assignment search, Figure 11 highlights the filter by type of registration, which includes the following options (an example is shown in Figure 12):

1. "SECURITY INTEREST" – Real Security
2. "ASSIGNMENT OF ASSIGNOR'S INTEREST" – Assignment of Assignor's Interest
3. "LIEN" – Pledge
4. "COURT ORDER" – Court Order
5. "RELEASE BY SECURED PARTY" – Release by Secured Party
6. "CONDITIONAL ASSIGNMENT" – Conditional Assignment
7. "LICENSE" – License
8. "CHANGE OF NAME" – Change of Name
9. "MERGER" – Merger
10. "MORTGAGE" – Mortgage
11. "NUNC PRO TUNC ASSIGNMENT" – Retroactive Assignment ("Nunc Pro Tunc")
12. "MERGER AND CHANGE OF NAME" – Merger and Change of Name

Figure 12: Example of “Security Interest” Registration

068598/0010 Sep 16, 2024 SECURITY INTEREST (SEE DOCUMENT FOR DETAILS). JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT 9849027 20090281520 2

Assignor ALIMERA SCIENCES, INC.	Assigned properties (1 of 2) Patent number 9849027 Sep 16, 2024 Ocular Implantation Device
Assignee JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT	Correspondent MRS. JESSICA BAJADA-BARTLETT 1271 AVENUE OF THE AMERICAS NEW YORK, NY 10020

Source: Author's elaboration

For the INPI to effectively contribute to unlocking intellectual property-backed financing in Brazil, it is advisable to adopt practices similar to those of the USPTO, as they are well-established and precise. The creation of a dedicated and efficient search mechanism for different types of transfer registrations, or “assignments,” is essential. Such a system should include a wide range of specifications, allowing users or financial institutions to verify the exact type of encumbrance affecting an industrial property right, in addition to providing detailed information such as the identity of the financing entity. It is important to highlight that these improvements could be implemented by INPI without requiring regulatory changes or intervention from other agencies.

Developing an efficient disclosure method, with clear records of ownership changes of IP rights, would provide greater visibility and legal certainty to the process. Combined with a search system that properly distinguishes between encumbrances and limitations, the tracking of these assets would become more accurate, reducing information asymmetry and strengthening institutional security for credit providers, as already occurs in other advanced jurisdictions.

The legal transfer of IP rights is another crucial aspect, as it facilitates the liquidation of assets in case of default. Additionally, it is essential to establish restrictions on the debtor's ability to license or transfer these rights when pledged as collateral, ensuring that priority over such assets rests with the creditor, as is already the case with mortgages and fiduciary liens.

In Brazil, the regulatory framework for guarantees allows real estate to be used in more than one credit operation, but this flexibility still does not apply to movable assets, such as IP rights. Currently, although it is possible to annotate limitations or encumbrances on registered IP rights, such registration is not mandatory in cases of pledge, but only in cases of attachment. However, Brazilian legislation allows the interested party to request the evaluation of registered assets to ensure a fair value before foreclosure, as provided for in Articles 64 and 64-A of Law No. 9,532.

In addition to these adjustments, the possibility of non-judicial enforcement, although complex as it requires legal amendment, is an important step to speed up the process. Finally, the implementation of mechanisms against unfair competition would strengthen the IP financing system, protecting creditors' rights and fostering a more trustworthy environment for the development of the IP finance market in Brazil.



RECORDING IN FINANCIAL STATEMENTS

The dissemination of information on intellectual property among SMEs in Brazil requires a coordinated effort by INPI together with commercial registries, accountants, and lawyers who operate in this segment. Currently, there is considerable lack of awareness regarding the importance and value of IP assets among these professionals, who are responsible for the structuring and management of many SMEs. To broaden knowledge on the subject, INPI could use national and regional professional councils as entry points, promoting training sessions and workshops for accountants and lawyers in partnership with commercial registries and sectoral associations.

In addition to raising awareness, it is crucial to reduce transaction costs for companies. Today, the financial cost of obtaining an appraisal report to include trademarks in corporate bylaws is high, which discourages many SMEs from formalizing these assets as part of their capital. One solution to this problem would be to waive the requirement for an appraisal report in certain cases, using the cost of obtaining IP applications as the basis for trademark registrations. Another measure that could facilitate this process is the creation of a certificate issued by INPI, consolidating all IP rights of a holder (such as patents, trademarks, and computer programs), which would serve as a substitute document for the appraisal report at commercial registries. This initiative, in addition to reducing costs, would bring greater agility and legal certainty to SMEs, encouraging them to protect and enhance the value of their intellectual property assets.



RELIABLE AND ACCURATE IP VALUATION

The valuation of intangible assets, such as intellectual property, is one of the most crucial aspects for the development of IP-based financing in Brazil. However, knowledge of these valuation methods is not widely mastered, especially by small businesses. To address this gap, INPI can play a role in disseminating valuation methodologies, encouraging the emergence of smaller specialized firms that can meet the demand for reliable and affordable intangible asset assessments. In addition, INPI could create a registry of companies that provide IP valuation services, thereby facilitating access to this information and promoting greater transparency in the market.

Another fundamental aspect is the development of international partnerships, particularly with Asian countries, which have a more advanced track record in the use of IP as collateral. International missions and exchanges could strengthen knowledge sharing and help adapt successful practices to the Brazilian context. For an integrated approach, the creation of a working group with the participation of institutions such as FINEP, BNDES, and INPI itself would be essential. This group could centralize efforts to develop IP finance, following the model adopted by BDC in Canada, which integrates the entire process and reduces risks by coordinating all stages, from valuation to credit granting.

The experience of BDC in Canada shows that a more centralized model can be more effective, especially in a country like Brazil, where creating integrated policies among ministries and public entities can be a bureaucratic process. The verticalization of the IP finance process by BNDES or a similar institution in Brazil would allow greater agility and reduce the dispersion of responsibilities, fostering a safer and more predictable environment for IP-based financing. To harmonize valuation methods, a selection of common and easy-to-apply methodologies could be adopted, similar to those used in the housing finance system. Additionally, the use of statistical models with high accuracy, known as Automated Valuation Models (AVMs) or “price calculators,” could be considered by FINEP to provide a practical and low-cost alternative for small and medium-sized enterprises.








Finally, the support of INPI and other institutions in developing and disseminating valuation methodologies would help fill the knowledge gap on IP and strengthen Brazil’s innovation ecosystem, thereby facilitating access to credit and fostering the country’s economic development.



CREATION OF A MARKET IN WHICH IP CAN BE TRADED FOR FINANCIAL PURPOSES

The creation of a secondary market for intellectual property is a fundamental step to stimulate trading and increase the liquidity of intangible assets such as patents, trademarks, and copyrights. Just as valuation requires a reliable process, establishing a space where these assets can be bought and sold is essential to consolidate the use of IP as financial collateral. The recent launch of the “Panorama of Information and Technology Contract Modalities” by INPI is an important step forward, but still limited, especially with regard to the transparency of transaction values. It is necessary for INPI to move towards publicly disclosing specific data on transaction values, regardless of exchange rate variations, in order to establish a concrete monetary benchmark for negotiations in Brazilian reais. One possible action to support the development of the IP market would be the creation of an information database on IP transactions and commercialization, which would operate similarly to the FIPE Table, providing an average of licensing and assignment transaction values. To achieve this, INPI could organize a competition or offer grants to encourage the creation of solutions for a robust and accessible database. Information such as the value of IP assignments by field and specific licensing data could be made publicly available to increase transparency and provide greater security to investors and interested companies.

Figure 13 – List of trademarks offered on the Village law firm website

 Home Serviços Nossa História Escritórios Blog Fale Conosco Login			
Consulte abaixo as marcas à venda			
 <p>Comércio Classe 35 A Donna A R\$ 30.000,00</p>	<p>ADUMAG</p> <p>Adubos Classe 01 Adumag R\$ 28.750,00</p>	 <p>Alimentos Classes 29, 30 e 31 Agro Bom R\$ 30.000,00</p>	 <p>Serviços de vigilância Classe 45 Alerta Telecom R\$ 6.900,00</p>
 <p>Aparelhos tecnológicos Classe 09 Amby R\$ 37.835,00</p>	 <p>Comércio Classes 35 e 41 AprenderFix R\$ 20.000,00</p>	<p>BABY LIFE</p> <p>Portal Internet Classes 09, 35, 38 e 42 Baby Life R\$ 66.000,00</p>	 <p>Cosméticos Classe 35 Bachellor R\$ 25.000,00</p>

Source: Own elaboration.

Figure 14 – List of trademarks offered on the Regify law firm website



Source: Own elaboration.

The creation of an online platform, possibly entitled “Intellectual Property Secondary Market”, where patents and other rights could be offered free of charge, would represent a significant step forward. Inspired by initiatives such as Petrobras’s “Patent Showcase” (Figures 15, 16 and 17) or others like those in Figures 13 and 14, where companies provide detailed information on patents available for exploitation or assignment, the INPI could facilitate the public offering of IP by field of activity. This market could be supported by institutions such as Petrobras, the Judiciary, and associations of IP law firms, establishing institutional partnerships to strengthen and promote the platform. Such participation would bring credibility and add practical expertise to the project, while connecting potential stakeholders.

Figure 15 – Search on the Patent Showcase



Source: Own elaboration.

Figure 16 – Filter panel

Filtrar Por:

Categoria: Todas as Categorias ▼

Subcategoria: Todas as Subcategorias ▼

Palavra-Chave: Palavra-chave

Status: Todos os Status ▼

Buscar

Source: Own elaboration.

Figure 17 – Filter panel with open options

Status: Todos os Status ^

Palavra-Chave: Palavra-chave

Subcategoria: Todas as Subcategorias ^

☒ Todos os Status

☐ Concedido

☐ Pendente

Categoria: Todas as Categorias ^

☒ Todas as Categorias

☐ Abastecimento e BioCombustíveis

☐ Desenvolvimento Sustentável

☐ E&P

☐ Gás, Energia e Renováveis

Alagamento

Anular

Conector

Duto Flexível

Estanqueidade

Flexible risers

Oull-in

Permeação de gás

Pressão

☒ Todas as Subcategorias

☐ Automação e Equipamentos Dinâmicos

☐ Biotecnologia

☐ Combustíveis, Lubrificantes e Motores

☐ Conversão de Biomassa

☐ Coque e Processos de Separação

☐ Distribuição, Instalação e Manutenção

Source: Own elaboration.

Experiences in other markets, such as classified ad websites and marketplaces for new and used goods (e.g., OLX, Enjoei, Webmotors), demonstrate how organization and ease of access to information help match supply with demand, allowing prices to adjust until supply meets demand. This increased transparency and accessibility are responsible for reducing transaction times. In the real estate sector, for example, information asymmetry in Brazil extends the average time to sell a property to around 16 months, while in the United States—where market data and transparency are abundant—the average selling time is only 50 days (MASSONETTO, 2023). This illustrates how a well-structured and transparent secondary market can accelerate transactions.

Therefore, the creation of a secondary market for IP would not only provide a more accessible and secure environment for transactions but would also help increase the liquidity of these intangible assets, facilitating their use as collateral and fostering an environment of innovation and economic dynamism.



CREATION OF A SPECIFIC FUND

The creation of a dedicated fund for intellectual property–based financing in Brazil could mark a milestone for innovation and economic development, bringing together the efforts of key institutions such as BNDES, FINEP, and INPI. FINEP, the main executor of innovation financing policies in the country, stands out as the ideal institution to manage this fund, given its extensive experience in supporting companies from the early stages of idea conception to financing through debt and equity. Expanding its scope to include post-grant IP financing would consolidate its role, allowing it to accompany companies' growth in a more comprehensive way. To achieve this, however, FINEP would need to include intangible assets as eligible collateral options. Nonetheless, FINEP would still need to acquire specific expertise in IP valuation, which would strengthen its capabilities and establish it as a reference in the sector.

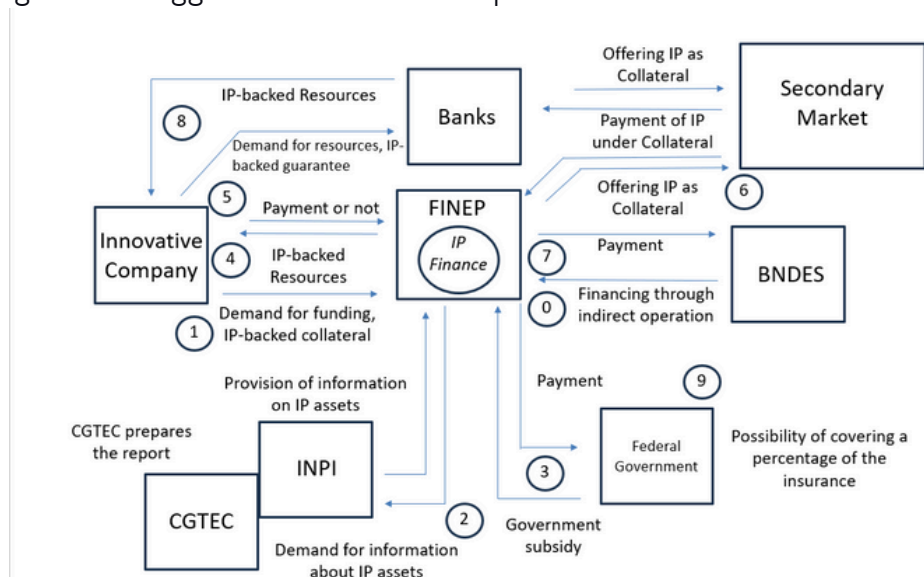
Figure 18 – FINEP image illustrating programs by company maturity level



Source: Extracted from the FINEP website, FINEP STARTUP section.

BNDES, with its greater capacity to raise funds, could provide resources either through subsidies or via indirect financing mechanisms, while INPI would contribute valuable information on patents and other IP rights, which are fundamental for the valuation process. In addition, INPI—particularly through its CGTEC department—could explore a new line of services for the market, generating additional revenue through fees associated with the provision of qualified IP information. In this way, CGTEC suggests the creation and operation of a dedicated IP finance fund for Brazil, as illustrated in Figure 19, detailed below.

Figure 19 – Suggested structure and operation of the IP finance fund in Brazil



Source: Own elaboration.

Operation Flow of the Brazil IP Finance Fund:

1. Initial Financing: BNDDES provides the initial financing through an indirect operation.
2. Resource Request: The innovative company applies to FINEP to obtain funding.
3. Verification of IP Rights: FINEP requests detailed information on the company's industrial property rights from INPI. Within INPI, CGTEC prepares and sends this information to FINEP.
4. Federal Government Guarantee: The federal government participates in the process by providing a portion of insurance coverage to reduce the operation's risk.
5. Disbursement of Funds: Once all documentation and requirements are in order, the funds are released to the innovative company.
6. Repayment: The borrower repays the financing. If repayment does not occur, the borrower is deemed to be in default.
7. Default: If the innovative company fails to meet repayment obligations, FINEP turns to the secondary IP market to sell the intellectual property assets and recover the funds.
8. Repayment to BNDDES: FINEP uses the recovered resources to reimburse BNDDES for the initial investment.
9. Stimulation of the Private Market: The success of the operation validates the creation of IP Finance and encourages the private sector to establish new IP-based financing lines.
10. Possible Program Expansion: Finally, the government may receive requests from the market to regulate, provide additional protections, and expand funding opportunities, fostering the growth of IP Finance in Brazil.

A joint mission to BDC would enable FINEP and INPI to absorb best practices in IP valuation, with the goal of developing practical tools such as a valuation calculator available to companies and financial institutions. This tool, provided on BNDDES or FINEP websites, would deliver approximate valuations of patents, trademarks, and other IP assets, helping the market better understand the potential of these assets as loan collateral.

Furthermore, the government could act as a catalyst by offering subsidies for credit insurance in IP finance operations, partially covering the risk of default when intangible assets are pledged as collateral. Such intervention would reduce loan costs, facilitating the adoption of IP as collateral in financing transactions and fostering greater confidence in the system.

To further strengthen market trust, the fund should also periodically publish detailed reports on the performance of IP finance operations in Brazil, signaling transparency and a commitment to institutional security. Finally, it would be relevant to assess the possibility of raising additional resources from the New Development Bank (NDB), the BRICS bank, as a way to expand the fund's capacity and further promote IP finance in Brazil.

Therefore, several measures can be implemented to unlock IP finance in Brazil, fostering a more favorable environment for the use of Intellectual Property as a financial asset. By strengthening the legal and operational framework—through the creation of a dedicated fund, improvements in IP valuation and registration processes, the promotion of a secondary market, and the establishment of strategic partnerships—Brazil can enable the use of intangible assets as collateral, fostering innovation and economic development. With coordinated actions among FINEP, BNDES, INPI, and the private sector, it will be possible to attract new investments and enhance the competitiveness of Brazilian companies, consolidating IP finance as a safe and accessible practice in the country.

CONCLUSION

UNLOCKING INTELLECTUAL PROPERTY (IP)–BASED FINANCING (IP FINANCE) IN BRAZIL IS A COMPLEX CHALLENGE THAT REQUIRES COORDINATED, STRATEGIC, AND INNOVATIVE ACTIONS. THE BRAZILIAN PATENT AND TRADEMARK OFFICE (INPI) PLAYS A CENTRAL ROLE IN THIS PROCESS, BUT ITS CONTRIBUTION MUST GO BEYOND IMPROVEMENTS IN THE IP REGISTRATION SYSTEM. AN INTEGRATED APPROACH IS ESSENTIAL—ONE THAT ENCOMPASSES THE ALIGNMENT BETWEEN INDUSTRIAL PROPERTY AND FINANCIAL LEGISLATION, THE PROMOTION OF IP AS COLLATERAL, AND THE CREATION OF SPECIFIC FINANCIAL INSTRUMENTS.

INPI faces a major challenge and has a long road ahead if it wishes to unlock IP finance in Brazil. Some initial measures depend exclusively on the institute itself, such as improving the registration structure. However, the complexity of IP finance requires a comprehensive approach that also takes into account the alignment between industrial property and financial legislation, as well as the development of incentive policies to encourage the adoption of IP as loan collateral.

Globally, IP finance is emerging as a strategic opportunity to drive innovation and economic competitiveness. In the United States, while the economy leads in patent accumulation, the use of IP as collateral still faces regulatory hurdles, particularly affecting technology-based companies. Canada stands out for its pioneering role with funds such as the IP Backed-Financing Fund, which values intangible assets as engines of global competitiveness. China presents a benchmark model with broad policies ranging from the use of IP as collateral to securitization initiatives, although operational challenges remain. In Japan and South Korea, detailed regulation and robust valuation systems have fueled financing for innovative SMEs, consolidating IP as a strategic tool for economic growth.

In Singapore and Taiwan, government efforts include subsidies and incentives for the valuation and commercialization of intangible assets, connecting companies to financial markets through structured programs. Indonesia and Malaysia, at earlier stages, have already implemented legislation and standardized models to facilitate the use of IP as collateral, while Australia, led by the private sector, demonstrates the strategic value of patents to attract investment and expand operations.

In Europe, progress has been slow due to regulatory rigidity and banking centralization. However, the United Kingdom stands out as an example of advances in IP finance, with initiatives such as NatWest and valuation tools that connect innovative companies to new financing opportunities.



The international experience provides significant examples of the implementation of IP finance, particularly through practices observed in the U.S., Canada, Asia, and Europe. These markets already employ intellectual property assets in financing structures, and adapting these lessons to the Brazilian context is essential. However, barriers such as valuation standardization, the absence of secondary markets, and the lack of regulatory integration still need to be overcome for intellectual property to be consolidated as a widely accepted financial asset. This scenario reinforces the need for joint efforts among governments, financial institutions, and companies to maximize the potential of IP as a driver of development.

Among the recommended actions are the creation of a secondary market for IP, where these assets can be traded and financially assessed, and the establishment of a dedicated fund with the participation of institutions such as BNDES, FINEP, and INPI, with the aim of providing financial support and an adequate structure for the use of IP as collateral. In addition, the need for political support and robust institutional relationships is evident for these changes to gain strength and sustainability. The implementation of a regulatory framework and the involvement of stakeholders—such as the financial sector, government, and business associations—are crucial to ensure an environment of trust and legal certainty. This political support will enable IP finance to become a viable and widely accessible practice, thus promoting a virtuous cycle of innovation, competitiveness, and economic development.

In conclusion, unlocking IP finance in Brazil depends on a series of integrated actions ranging from improvements in INPI's regulatory and operational practices to the creation of specific market structures and the strengthening of political and institutional alliances. With these measures, Brazil will be able to transform Intellectual Property into a tangible financial asset, opening a new pathway for development and innovation in the country.

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