Unlocking IP-backed Financing Series

Country Perspectives
The United Kingdom's Journey

WIPO

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Acknowledgments

The World Intellectual Property Organization (WIPO) and the Intellectual Property Office (IPO) of the United Kingdom would like to acknowledge the expertise and insights provided by Martin Brassell, the Chief Executive of Inngot.

Martin is the co-author of two IPO reports pertinent to IP financing: 2013's *Banking on IP* and 2017's *Hidden Value: A Study of the UK IP Valuation Market*. As well as further reports on the subject for OECD, and on intangibles identification for ACCA, he is also co-author of *Economic Approaches to Intellectual Property*, published by Oxford University Press (2016).

In 2007, Martin co-founded Inngot with Professor Iwan Davies to develop innovate approaches to intangibles identification, assessment and value estimation. Inngot has worked extensively with national and international companies on realizing value from IP and related assets, from startups to multinational companies.

Acronyms

ACCA	Association of Chartered Certified Accountants
BBB	British Business Bank
BVCA	British Private Equity and Venture Capital Association
CBILS	Coronavirus Business Interruption Loan Scheme
CIMA	Chartered Institute of Management Accountants
DBT	Department for Business and Trade
DBW	Development Bank of Wales
DSIT	Department for Science, Innovation and Technology
EFG	Enterprise Finance Guarantee scheme
EIB	European Investment Bank
EIS	Enterprise Investment Scheme
EU	European Union
FCA	Financial Conduct Authority
FRC	Financial Reporting Council
FRS	Financial Reporting Standard
HMRC	HM Revenue and Customs
IAS	International Accounting Standard
IASB	International Accounting Standards Board
ICAEW	Institute of Chartered Accountants in England and Wales
ICAS	Institute of Chartered Accountants of Scotland
IFRS	International Financial Reporting Standard (may also refer to the International Financial Reporting Standards Foundation, depending on the context)
IP	intellectual property
IVSC	International Valuation Standards Council
NGO	non-governmental organization
OECD	Organization for Economic Co-operation and Development
ONS	Office of National Statistics
PD	propensity to default
PRA	Prudential Regulation Authority
R&D	research and development
RICS	Royal Institute of Chartered Surveyors
RLS	Recovery Loan Scheme
SEIS	Seed Enterprise Investment Scheme
SME	small and medium-sized enterprise
UK	United Kingdom
UKEB	UK Endorsement Board
UK IPO	United Kingdom Intellectual Property Office
UKRI	United Kingdom Research and Innovation
US	United States of America
VC	venture capital

Glossary

amortization	The accounting practice of spreading the cost of an intangible asset, such as intellectual property, over the asset's expected useful life (where assets are fixed and tangible, "depreciation" is more commonly used)
business angel	A private individual, typically with high net worth and usually with commercial experience, who invests in new and growing private businesses
capitalization	The accounting practice of spreading the cost of an asset over its expected useful life, which involves placing it on the company's balance sheet rather than expensing it in full through the profit and loss account within the period when it was incurred.
default	The failure of an individual or a business to repay their agreed debt to the lender
equity investment	Money that is invested in a company in exchange for shares
micro-business	A company with less than 10 employees and turnover of less than EUR 2 million (approximately GBP 1.7 million) or a balance sheet of less than EUR 2 million. This is included within the definition of SME (see entry for SME in this list) unless otherwise stated
patent library	A UK network of information centers with qualified and experienced staff offering practical assistance on a variety of matters relating to IP rights
private equity	An investment fund, generally organized as a limited liability partnership, set up to purchase and restructure unquoted companies, typically more mature businesses
scale-up (or high growth)	A company exhibiting revenue growth of at least 20 percent per annum over two or more successive accounting periods
SME	Small and medium enterprises with less than 50 employees and annual turnover of under EUR 10 million (approximately GBP 8.4 million) and medium enterprises with less than 250 employees and turnover of less than EUR 50 million (approximately GBP 42 million)
venture capital (VC)	A form of equity investment typically made in relatively early-stage companies that exhibit high-growth potential

Executive summary

Most contemporary businesses depend on technology, creativity, design or brand recognition to operate successfully. As a result, intangible assets in general, and intellectual property (IP) in particular, drive modern enterprise value. Despite this dependency, companies can find it difficult to leverage these business-critical intangible investments to obtain growth capital – harder than if they had spent money on traditional, tangible assets.

The United Kingdom (UK) meets three essential preconditions for IP finance to work at scale. Firstly, it has a large population of innovative businesses with high-growth potential, an increasing number of which are investing in IP. Secondly, it has a well-established legal framework for IP offering a range of protection and enforcement options. Thirdly, its legal system enables security to be taken over movable, intangible assets.

The United Kingdom has a relatively active investor community that recognizes IP assets are important. Early-stage companies can turn to crowdfunding platforms, business angels and, in some cases, venture capital (VC) companies for seed funding. However, as in many other countries, there is a gap between this dilutive, equity-based startup investment and access to non-dilutive debt.

As UK lenders start to engage more actively with consideration of IP assets, there are some encouraging signs that debt is beginning to become available at an earlier stage to these growth businesses who need it most. This movement has been helped by research which, while not conclusive, strongly indicates a positive correlation between IP assets and better loan performance.

Despite this recent progress, the IP finance market remains underdeveloped in the United Kingdom. Regulatory and non-regulatory obstacles hinder the mainstream use of IP to raise business finance. For example, the treatment of IP in accounting standards and financial regulations both present complexities. The biggest hurdles remain attitudinal; the unique characteristics of IP that make it valuable are unfamiliar to financiers, and hard to verify using external sources. As IP always delivers value in a particular context, lenders in particular are understandably wary of how reliably future asset value can be estimated. However, there are signs that market-led solutions are emerging that can address the issues of complexity, confidence and cost.

The UK Intellectual Property Office (UK IPO) is the official Government body responsible for the United Kingdom's IP framework. The UK Government's approach to IP finance has evolved substantially over the 16 years since the 2006 *Gowers Review of Intellectual Property* first drew attention to the challenges faced by small and medium-sized enterprises (SMEs) in accessing finance, owing to the limited appreciation of IP value, and the 10 years since it published the first detailed examination of IP finance, *Banking on IP?*, in 2013.

UK IPO has focused on bringing issues to the surface through expert research: using its convening power to bring public and private sector stakeholders together to explore solutions; developing toolkits and guidance to assist industry and advisors; and providing targeted support to SMEs to improve their IP management.

This report, as part of a wider compendium of "country reports" commissioned by the World Intellectual Property Organization (WIPO), provides an overview of the IP finance landscape in the United Kingdom. It includes a summary of the types of IP finance used in the United Kingdom and the regulatory and non-regulatory obstacles affecting the use of IP for fundraising, as well as the role of Government and plans for the future to help SMEs unlock access to IP finance.

The United Kingdom's Journey

Structure of this report

This report starts with a UK perspective on IP and intangible asset trends and characteristics, and the relationship between IP and business finance. It continues with a brief summary of the options available to SMEs seeking to utilize their IP to raise finance that have emerged in recent years.

The report will then offer an overview of relevant rules and regulations, and the organizations responsible for setting them. It also summarizes the preferred legal frameworks for taking security over IP, and the main non-regulatory obstacles an SME is likely to face when trying to raise finance using these assets.

Thereafter, this report sets out what UK IPO and its partners have done to address the regulatory and non-regulatory hurdles that prevent more widespread use of IP in finance, and identifies the key stakeholders involved in the journey to date. It evaluates some successes that have been seen, and points toward the IPO's ongoing work in this space.

Definitions and scope

Despite widespread evidence of the link between good IP management and superior business performance, IP is not expressly considered in most contexts where a company's investability or creditworthiness needs to be determined.

In the United Kingdom as in other countries, some confusion can arise regarding the meaning of the term "IP finance." In this report, the following definitions are used, unless the context requires something different:

- "IP" means the registered and unregistered rights that are formally recognized in law: it includes patents, trademarks, designs and copyright, together with other assets that enjoy specific legal protection such as database rights, semiconductor topographies and trade secrets.
- "Finance" that utilizes IP is interpreted broadly. The form of finance may be equity investment, debt (borrowing) or grant funding. The purpose of the finance may be to create, protect or commercially use inventions or original works. This includes the *active consideration* of a company's existing IP and intangible assets (and/or its capacity to create new IP and intangibles) when deciding whether to provide business financing.[1]

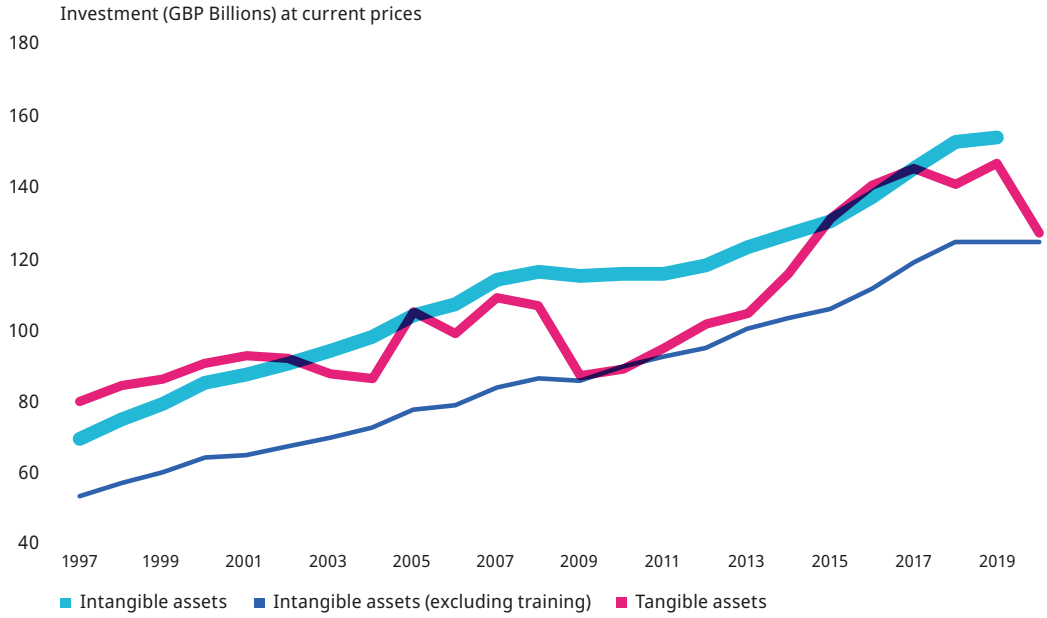
A key point to emphasize is that IP is a subset of the many non-physical, "intangible assets" businesses may own and use, which increasingly drive enterprise value. Intangibles such as contracts and licenses, data, relationships and regulatory approvals can have substantial worth in their own right. Where there is any consideration of IP, these other intangibles will often also be taken into account.[2]

Lastly, it should be noted that IP financing is expressly not defined or viewed as being limited to particular IP rights: for instance, it is not patent-centric. An example of this in an increasingly digital world is the copyright that arises automatically in original software and innovative database designs, which can be every bit as important and valuable as patents in many industrial sectors.

IP and intangible trends in the United Kingdom

The COVID-19 pandemic, and the associated requirement for remote working, has done little to change the clear shift toward business investment in intangible rather than tangible assets. The share of intangibles in total UK investment increased by 1.9 percent between the first three quarters of 2019 and 2020,[3] continuing a steady long-term trend that is apparent from ongoing national statistical research (see Figure 1).

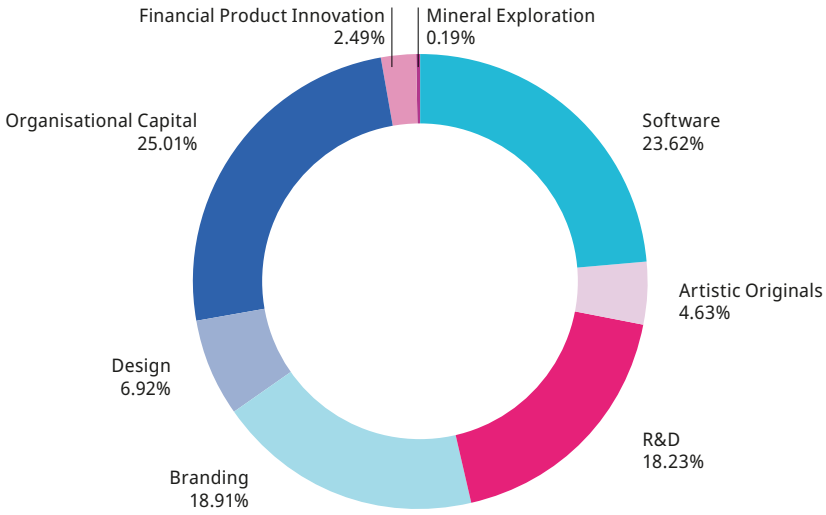
Figure 1 Investment in tangible and intangible assets in the United Kingdom



Source: Office of National Statistics (ONS).[4]

It has been estimated that 70–80 percent of the value of UK businesses is made up of intangible assets.[5] Businesses may own many different types of intangible assets. A customer contract is an example of a type of intangible that enables a predictable income stream, which is necessary to demonstrate debt serviceability. However, a company's IP may be the reason the contract has been won, and the primary asset that enables the work to be delivered. Also, being a form of personal property, it is relatively straightforward to structure a transaction to buy or sell (assign), transfer or license IP – and, unlike human capital, it is something a business can legally own, control, protect and enforce.

Figure 2 Share of investments into intangibles by asset in the United Kingdom (2020) [6, 7]

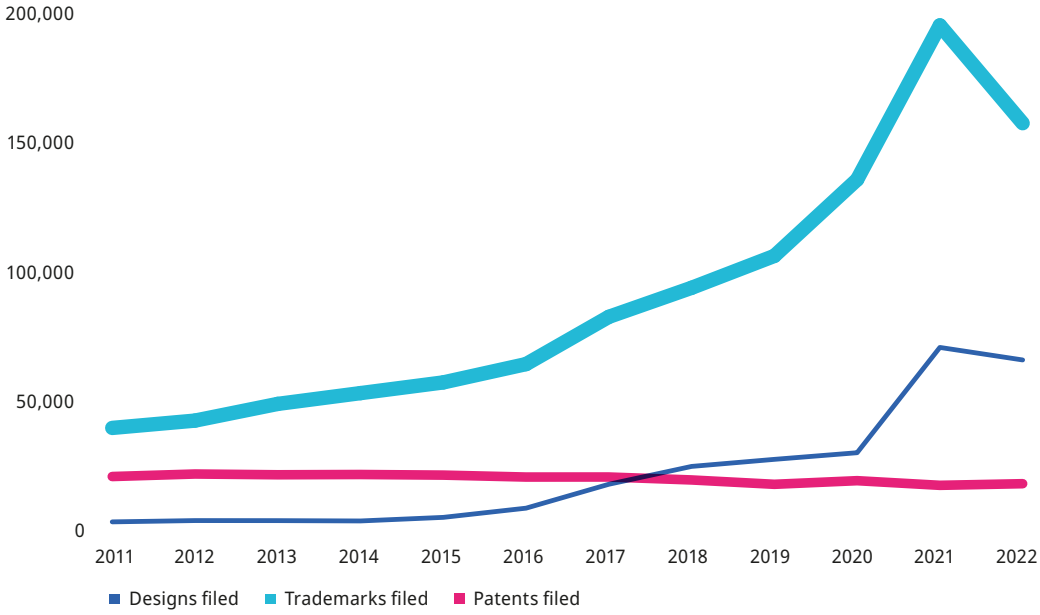


Source: Office of National Statistics (ONS).[8]

Past research by UK IPO has concluded that just over half of intangible assets have some form of legal protection in the United Kingdom.[9] The use of UK IPO's registration services is growing, particularly in respect of trademarks and registered designs. In 2022 the IPO received nearly 19,500 patent applications, over 67,000 design applications, and over 158,000 trademark applications.[10] In 2020, more than GBP 134.5 billion were invested in intangibles (figure 2).

As well as a healthy stock of IP-owning companies, a strong IP regime is identified as a UK competitive strength, contributing to the nation's position as one of the top four innovation economies globally in the Global Innovation Index.[11] The UK Government's Innovation Strategy aims to encourage greater investment in innovative companies with intangible assets such as IP, as part of a wider national objective to maintain and strengthen a global leadership position in innovation.[12]

Figure 3 Design, trademark and patent filings before UK IPO (2011 to 2022)



Source: UK Intellectual Property Office.[13, 14]

Motivations for focusing on IP in finance

SMEs are widely recognized as a driving force in the UK economy; they account for over 99 percent of businesses by volume and contribute 50 percent of national private sector turnover.[15]

Within this group of companies, there is a subset that is recognized as innovative and IP-intensive which generally exhibits above average growth. Despite accounting for less than 1 percent of UK companies by volume, high-growth SMEs[16] add GBP 1.2 trillion to the UK economy, representing 50 percent of all SME turnover.[17] These businesses offer potential to generate substantially greater economic returns if the flow of growth capital to them can be improved.

Several reports into the IP system have picked up the links between IP and business funding. The relationship between IP and access to finance was first articulated in the *Gowers Review of Intellectual Property* published in 2006.[18] The report acknowledged funding problems for SMEs generally and made specific reference to the difficulties encountered in raising VC "as a result of poor valuation of intellectual assets." The report expressed support for the development of best practice guidelines to reduce the reporting gap.[19]

Digital Opportunity: A Review of Intellectual Property and Growth, written by Ian Hargreaves in 2011, was primarily concerned with the fitness for purpose of the IP framework. However, this also drew attention to the absence of commercially oriented IP advice for business. Investors referenced in this report observed many companies lacking a clear IP strategy, which in turn influenced their investment decisions. It also referenced external evidence that creative firms in particular struggled to attract finance.[20]

As the *Banking on IP* report of 2013 confirmed, IP is an important consideration in equity investment, where regulation is lighter and collateral availability is not of concern. While investors such as VC companies and private equity firms will always place particular importance on opportunity size and team quality, they are aware that companies need IP to create freedom to operate and protect their competitive advantage.[21]

Informal investors such as "business angels," together with providers of grant funding such as Innovate UK, have become increasingly likely to require information on IP strategy when considering whether a business is well managed and equipped to succeed. Therefore, viewed across the business funding spectrum as whole, IP has a clear role to play.

However, IP-rich, high-growth firms find it difficult to attract non-dilutive follow-on (debt) funding because most of them lack the forms of collateral that banks and other lenders traditionally require (namely tangible assets).[22] As subsequent sections of this report explore, the banks' position is determined in part by regulation, but also arises from a lack of familiarity with, and confidence in, IP as an asset class.

Published research points to a disconnect between the assets lenders are seeking and the assets that companies actually own. A 2019 study sponsored by the European Investment Bank (EIB)[23] illustrates the scale of this problem, highlighting the difference between the investment behavior of EU scale-up companies (what they choose to spend money on) compared with more mature businesses (defined as 10 years old and above). As can be seen, 75 percent of the expenditure categories scale-ups prioritize are intangible in nature.

Complications arising from an IP focus

Intangible assets in general have a number of properties that differ from physical assets, and these introduce complications for financiers. In their influential book *Capitalism without Capital*,[24] Dr. Jonathan Haskel and Stian Westlake single out four main characteristics that are often associated with this asset class:

- *Scalability.* Intangibles do not get "used up," but can be used repeatedly, by multiple people, and in multiple places, simultaneously (and the more they are used, the more valuable they tend to become).

- *Sunkenness*. Once money has been spent on intangibles, the assets tend to be difficult to resell (they tend to be created for a specific purpose, which is particular to the company that made them).
- *Spillovers*. Advances in intangibles have a tendency to "lift all boats"; it is difficult to exclude competitors from taking advantage of new approaches. Company appetite to invest in more intangibles can be affected if it cannot appropriate the majority of the benefits they deliver.
- *Synergies*. Ideas often work well together, as is evident from the rise of open innovation approaches where knowledge gathered from outside a company is incorporated within its new products and services.

IP rights are beneficial in addressing some of these complications. They provide a means of controlling permissions to use inventions and creative works (via licensing, as well as recourse to litigation). They also make it more likely that value will be recoverable, in part because IP assets have a clear legal form.

Equity investor attitudes to these complications will vary depending on their risk appetite. However, as discussed further in this report, debt financiers need to exercise care when seeking to attach security interests to IP, and the characteristic of "sunkenness" remains a particular concern to them in terms of recoverability in the event of default.[25]

Also, IP rights remain subject to two other complications expressed by Haskel and Westlake. These are *uncertainty* (for example, whether the assets will be successfully commercialized, and for how long) and *contestedness* (being issues around validity, novelty and ownership). Due diligence can address these risks, but not fully or permanently.

Types and sources of IP finance used in the United Kingdom

Introduction

Despite the hurdles faced by businesses seeking to raise finance using IP, first identified in 2013's *Banking on IP* report, there have been several developments in lender activity and appetite during the decade since its publication. This period has also seen some positive trends emerge in investment activity directed toward IP-intensive companies.

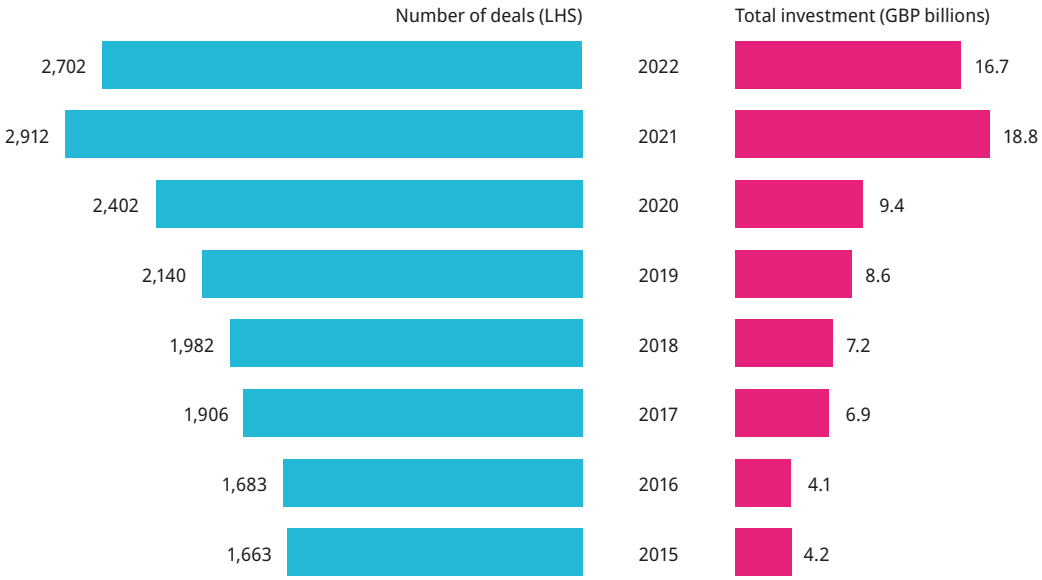
Most recently, while activity during the COVID-19 pandemic inevitably focused on business survival, equity investors have continued to back innovative businesses, especially in the tech sector. Encouragingly, as set out in the section "Trends in commercial lending," some commercial lenders have also started to introduce IP finance-related products specifically targeting the high-growth market.

Trends in equity investment

For the majority of IP-intensive startups, the most accessible sources of finance (beyond friends and family) are equity crowdfunding platforms and business angels. The United Kingdom benefits from established platforms and networks which improve access to these important sources of financial and non-financial support. As businesses grow, the availability of VC and private equity sources increases.

Overall, UK equity investment for SMEs has seen significant growth since 2011. In 2021, the United Kingdom saw a record GBP 18.8 billion invested into high-growth potential SMEs.[26] This represented a significant 100 percent increase from 2020 (itself a record-breaking year). More recently, the United Kingdom saw levels of equity investment drop in 2022 to GBP 16.7 billion.[27] While investment remained strong in the first half of 2022, there was a marked decline in investment and deal activity in the second half of the year.[28]

Figure 4 Number and value of equity deals since 2015



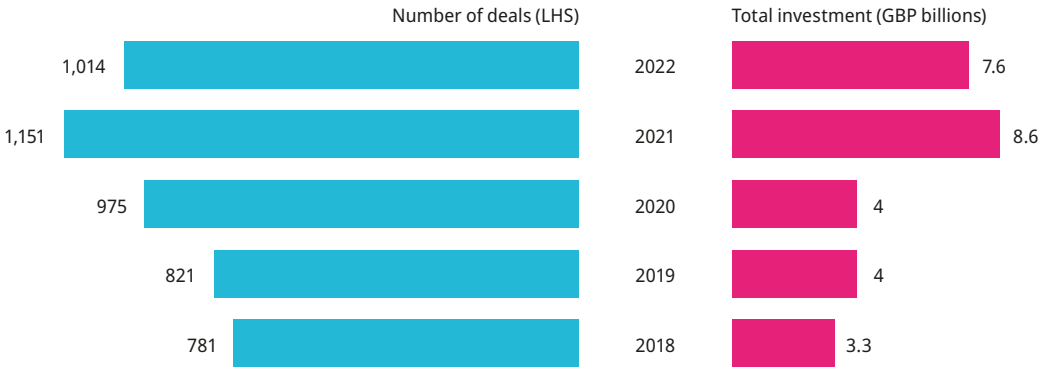
Source: British Business Bank[29] analysis of Beauhurst data.

The slowdown in equity investment in 2022 can be viewed as a return to lower long-term trends seen before the pandemic, driven in part by rising inflation and interest rates, alongside a slowdown in deal-making to compensate for over-deployment of capital in the previous 12 months.[30] Despite this drop, the overall number and value of equity deals in 2022 remain significantly higher than in 2020 (by 12 percent and 77 percent respectively).[31] The United Kingdom also remains the largest VC market in Europe, though it continues to lag behind the United States of America.[32]

The British Business Bank (BBB), a UK Government-owned economic development bank, publishes an annual report on the small business equity landscape. The BBB's *2023 Small Business Equity Tracker* report showed technology or IP-based businesses continue to receive the largest amount of equity investment in the United Kingdom.[33, 34] The sector saw GBP 7.6 billion and 1,014 deals in 2022, representing a 47 percent and 4 percent increase from 2020.[35] Software and life sciences have traditionally been the subsectors with the most investment. For example, in 2022, 63 percent of all deals and 57 percent of all investment in the technology sector was raised by software companies.[36]

Clean tech is also a sector which, while a relatively small part of the overall equity market, is likely to see increased equity investment going forward: it received 53 percent more investment in 2022 than 2021.[37]

Figure 5 Equity investment into technology/other IP-based businesses over time



Source: British Business Bank[38] analysis of Beauhurst data.

Equity investors purchase a share of the ownership of a business, which may rise or fall in value over time. This type of investment is high risk but offers uncapped returns; many UK private investors are also able to benefit from favorable tax treatment, which makes these investments more attractive to sophisticated investors and high-net-worth individuals.[39]

The equity financing landscape is characterized by several types of investors, principally (in order of the level of enterprise maturity generally sought):

- *crowdfunders:* platforms which allow investors and members of the public to purchase shares in a firm. Often used by early-stage and growth potential businesses;
- *business angels:* individuals, typically with high net worth and commercial experience, who invest in new and growing businesses, and often take a keen interest in the day-to-day operation of their investee firms;
- *VC companies:* funds or firms that finance early-stage and high-growth potential businesses to help them expand, which may invest money from family offices, private individuals and larger institutions such as pension funds; and
- *private equity firms:* investment funds set up to purchase and restructure unquoted companies, using capital from pension funds and insurance companies, typically targeting more mature businesses.

Crowdfunding platforms play an increasingly important role in raising capital for SMEs.[40] The United Kingdom is fortunate to host several crowdfunding platforms which provide these companies with an avenue to raise funding.[41] A 2022 Beauhurst report into UK equity crowdfunding confirmed that it is most commonly utilized during a company's initial phase of development, with 53 percent of crowdfunded businesses raising funds while at the seed stage.[42] At this early stage, companies seldom have mature IP assets available for investor consideration.

Business angels play a prominent role in the supply chain of capital to the United Kingdom's early-stage and innovative IP-intensive businesses. A 2020 BBB report into the UK business angel market observed the prominence of such investors in supporting seed, startup and early-stage businesses to grow.[43] As they invest their own capital, business angels have greater decision-making power to make earlier and higher-risk equity investments than VC or private equity firms that typically pool capital from multiple investors; they often provide the funding needed to create the IP that will drive future growth. There is limited data available on the size of the market itself, but a survey conducted by BBB in 2020 found investment has mostly remained the same (40 percent) or increased (26 percent) since the onset of COVID-19, and that further investment in other projects has continued, albeit at lower values.

The main difference between *VC* and *private equity* is that VC will often direct financial support at earlier-stage companies, typically in technology-based sectors, which are not yet profitable (but offer the prospect of very strong growth). VC thus has an important contribution to make in addressing the funding gap faced by IP-rich companies. Private equity is more often used to

support management buy-outs and buy-ins that support the growth of more mature companies and thus primarily serves a different market.

In this wider VC and private equity market, many larger private sector investors are members of the British Private Equity and Venture Capital Association (BVCA) and/or its European equivalent, Invest Europe. The BVCA publishes an annual Investment Activity Survey. The survey found that the absolute number of firms benefiting from VC funding is high as a proportion of overall market activity, but modest in absolute terms: 1,130 companies in 2022, of a total of 1,944 investments across the industry. This level of venture investment is higher in 2022 than it was in 2020 or 2019, reflecting the fact that 2021 was a particularly busy year in the immediate post-pandemic period.[44]

As businesses grow, VC funding becomes more accessible. The ScaleUp[45] Institute, a not-for-profit company which has tracked UK high-growth companies since 2015, publishes an annual survey of high-growth companies. The 2022 survey asked respondents whether they relied upon equity finance and, if so, to indicate the source. Of high-growth firms using equity finance, VC (58 percent) and business angels (58 percent) were the two largest sources, while 9 percent of scale-ups indicated that they relied upon crowdfunding.[46] Notably, the most common reason cited by high-growth companies who chose not to use equity finance was a reluctance to lose control (36 percent) and a belief it was not suitable for business needs (29 percent).[47]

While the vast majority of UK equity funding comes from private sources, the BBB, through its British Business Investments commercial subsidiary, also participates in supporting business angel funding. In 2018, the BBB launched a new GBP 100 million program to support regional angel investment to help reduce imbalances in access to early-stage equity finance for smaller businesses across the United Kingdom.[48] During the pandemic, the BBB introduced the Future Fund to enable innovative businesses to continue raising finance.[49] BBB estimates that during 2020, it supported around 21 percent of all equity deals, either through the Future Fund or pre-existing schemes.[50] In recent years, the BBB has been more likely to invest in technology/IP-based businesses than the overall market. In 2019–22, 48 percent of the BBB's investments went toward deals in this sector, compared to the 42 percent for the wider equity market.[51]

It is important not to overstate investor reliance on IP: as the *Banking on IP* report noted, business angels (for example) invest in companies and the teams that manage them, not specifically in IP assets. However, international research has noted the positive association between patents and prototypes and fundraising success[52] with the signaling function of patents helping to address information gaps where a business has yet to gain market traction.[53] Even if the assets have not been created at the point of initial funding, investor attention swiftly turns to the ways in which a company is protecting its market opportunity, and thus to IP.[54]

Within the insights, research and guidance that are provided to VC companies, the BVCA includes a guide to IP. This guide provides insights into ways in which IP analytics can be used to identify potential acquisition or investment candidates, how IP protection can provide value for portfolio companies, how IP can be a source of non-dilutive capital preserving value to investors, and why it is important to position IP as a value driver during series funding and at exit.[55]

Trends in commercial lending

The primary source of finance for the majority of SMEs remains their bank. The UK market has experienced a high level of financial innovation over the last decade, including more diversity in the supply of bank finance. The BBB reports that, in 2022, 55 percent of net new lending was via challenger or specialist banks rather than the traditional "Big 5" banks.[56] UK lenders offer a variety of funding solutions, ranging from overdrafts and term loans to asset-backed and invoice finance, and (in some cases) specific products targeted at growth companies such as venture debt.

In 2020, SME bank lending rose to an unprecedented level (GBP 103.8 billion) due to widespread use of Government-guaranteed business support schemes throughout the pandemic.[57] Since COVID-19, when the main emphasis was on SME survival, more normal patterns of lending are

being re-established and a number of lenders have started to look again at the opportunity IP presents to act as a useful form of security for lending.

For the borrower, debt finance has the attraction that it does not change the ownership structure of the business and is ultimately significantly cheaper (especially if the business is highly successful). This is because banks earn money primarily through charging interest on the sums they advance, so unlike equity investors, their potential returns in a financing transaction are clearly defined and finite.

As a result, commercial lenders pay close attention to risk in their credit decision processes. A long-established approach used to mitigate lending risk is for a bank to obtain security over assets of value, for the reasons set out in the section "Law and precedent" which follows.

There are three levels at which IP may feature in a mainstream lender's decision process, each of which is observable in current UK lending practice:

- *"catch-all":* where IP forms part of the security that the lender takes when it finances a business, but does not receive any specific consideration;
- *comfort:* where a lender gives active consideration to the presence, importance and/or value of IP assets owned by the business, but does not necessarily link or limit the amount it advances to the realizable value of the security; and
- *collateral:* where value (including an expected collateral value) is formally attributed to IP assets that are then taken as security.

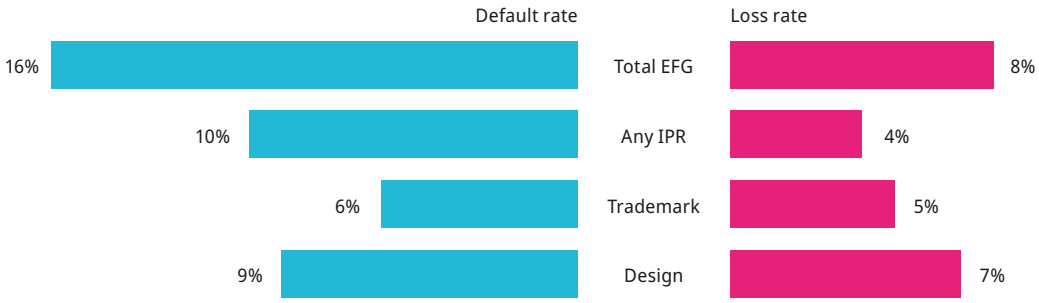
Historically, most term loans offered by lenders have fallen into the "catch-all" category. A standard form bank debenture generally includes wording that places a fixed and floating charge over the IP and intangible assets owned by a company. As no active consideration has been given to the nature, role or value of these assets in the lending decision, the IP serves merely as "boot collateral," a term which acknowledges that the security interest that is present does not relate to assets against which finance is specifically being granted.[58] While it is important to acknowledge that the practice exists, it is not considered to constitute "IP finance" for the purposes of this report.[59]

Recognizing that many growth businesses lack the tangible assets that lenders prefer to use for security, and the growing body of literature linking IP with business performance, the BBB and UK IPO jointly launched a new report in 2018, titled *Using IP to Access Growth Funding*.[60] The research project was announced as a series of measures in response to the 2016 HM Treasury-led *Patient Capital Review* which explored barriers to access to long-term finance for innovative and growing firms.[61] The BBB-IPO report acknowledged that intangible assets are growth-promoting and that actions that unlock IP as a source of collateral for finance could lead to IP-intensive firms making productivity-enhancing investments that would benefit the UK economy.[62]

A key centerpiece of the 2018 report was joint research into the default and loss rates of firms which had participated in the BBB's Enterprise Finance Guarantee (EFG) scheme.[63] The EFG was a Government national debt guarantee scheme that facilitated lending to smaller businesses that are viable but may lack sufficient collateral to access conventional loans.[64] The report matched EFG borrower data with the UK IPO's database of registered rights (patents, trademarks and designs). The report assessed the default and loss rates of firms with registered IP and compared these with the wider EFG portfolio.

Figure 6 **Difference in default and loss rates between firms with registered IPRs and those without**

All loans vs. loans to firms with IPR, April 2009 to March 2016.



Source: British Business Bank and UK Intellectual Property Office (IPO).

The analysis found that companies with registered IPRs are less likely to default and, where default does occur, the resulting losses to the banks are lower. While the research did not demonstrate a causal relationship between lower rates of default and loss and IP ownership, it did identify a statistically significant variance between firms with registered IP and firms without registered IP. For example, the average default rate in the EFG portfolio was 16 percent compared to 10 percent for firms with any registered IP – a 38 percent reduction in propensity to default (PD). Notably, the lower rates of default and loss associated with firms that had registered IPR broadly held across lenders, industrial sectors, firm size (by turnover) and age of business.[65]

The report also explored the relationship between defaulting and other variables (such as business characteristics and loan sizes). The analysis found that holding a patent has the strongest association with a lower likelihood of default, followed by a trademark.[66] Firms with both a patent *and* a trademark had the lowest likelihood of default and loss. However, other characteristics were also found to contribute toward lowering the likelihood of default such as older businesses (five years and older), higher loan values, and shorter-term loans (between two and four years). Industry or business turnover were found not to be statistically significant. The report concluded that even where lenders do not provide a specific IP-backed loan product, lenders should find that loans to firms with registered IPRs result in lower rates of default and loss.[67]

Compelling evidence to support the view that IP-intensive businesses are likely to make better lending candidates has historically been difficult to obtain. The publication of this research, and the discussion generated by it, appears to have played a role in encouraging some lenders to give more active consideration to the value of the IP assets a company owns. As illustrated by the example of HSBC and NatWest, there is evidence of banks introducing new products which increasingly attention to IP in both the "comfort" and "collateral" categories.

Debt availability is always subject to evidence that the business will be able to service its borrowings. Unsurprisingly, "comfort" loans have been generally dependent on the presence of strong recurring cash flows. These cash flows may be generated, for example, by a business offering software as a service.

In comfort lending, more attention is being paid to methods of perfecting the security taken over the IP to ensure that charges are effective. While these IP assets may not be associated with a specific expected recovery value, it will be important to ensure control exists in the event of default, in order to improve the lender's position with the company and its investors. The accompanying case studies to this report provide examples of deals that fit this profile, with a range of lenders participating including HSBC UK and Clydesdale Bank (now Virgin Money).

HSBC Growth Lending[68]

HSBC UK announced a GBP 250 million pool of assets in 2022 to support high-growth, technology scale-up companies that are transitioning to profit, with strong equity backing and a proven sales track record.

The Growth Lending product, which is separate from the bank's venture debt activities, targets businesses with revenues of over GBP 7 million and sales growth of 20 percent and above over the last two years, and which have raised GBP 25 million or more in equity, providing loans of up to GBP 15 million. The lending is for growth and to support the firms' transition to profit.

As part of the credit assessment process, all companies have their IP valued; key assets are individually identified and made subject to a fixed charge. To date, 10 deals have been completed to companies operating in a variety of sectors, including advanced coatings, personal technology products and cybersecurity.

The third category, collateral, is the form of debt-based IP finance that offers most promise for UK growth businesses because it fully harnesses the value of the assets companies have created. At the time of writing, NatWest Group has confirmed the launch of a new High Growth Lending product which specifically considers IP quality and value.

This is not the first time NatWest Group has engaged with IP. As explained in an accompanying case study, the primary source for this type of funding in the United Kingdom has been Lombard, a NatWest subsidiary, which first applied asset-based finance techniques in 2017. Under this loan structure, the IP rights in specified assets are purchased and licensed back to the business for the duration of the loan term.[69]

NatWest's High Growth IP loan

In 2023, NatWest announced a new lending product offering high-growth companies the opportunity to borrow between GBP 250,000 and GBP 10 million against the value of their IP assets.

Patents, trademarks, designs and copyright (such as software copyright) can all be taken as security, at up to 50 percent of their combined orderly disposal value, subject to serviceability criteria. The product can also provide an initial capital repayment holiday.

Identification, assessment and valuation of the IP is conducted using a third-party online platform. The loan conditions include a fee for ongoing monitoring (payable on drawdown) and a commitment by the borrower to co-operate in an annual revaluation process.

A notable feature of IP finance initiatives in other countries, including those referenced in prior WIPO reports, is the provision of guarantee structures to cover unrecoverable defaults. To become commonplace, the use of IP as collateral for finance may require some form of "safety net" due to the complicating factors set out in the following sections of this report (chiefly uncertainties over market traction, disposal routes and valuation, as well as general unfamiliarity with the asset class). A possible solution may lie in collateral protection insurance, which has been deployed in the United States of America in IP financing deals brokered by Aon and by Pius (part of Gallagher).[70] When appropriately structured, these policies can also give lenders the benefit of capital relief, reducing the effective cost of lending and borrowing.

Use of IP as loan security should not be confused with "securitization." This term implies that one or more assets are being converted into marketable financial instruments such as bonds, usually for the purpose of raising cash by selling them to other investors. Securitization is not commonplace but has happened in the United Kingdom with IP assets – the most famous

example being the “Bowie Bond,” issued in 1997, which raised USD 55 million based on the royalties from 25 David Bowie albums, backed by guarantees from EMI.[71]

Securitization can prove problematic for IP unless the characteristics and ownership of the assets are closely matched. However, royalties, where present from licensing activity, may themselves provide additional financing opportunities. Firms such as Duke Royalty offer a means for companies to harness these variable but generally reliable recurring income streams to raise funding for growth.[72]

One other IP-related structure of relevance to the creative industries is noteworthy. Some lenders, principally Coutts & Co., have developed a specialty in providing project-based finance to media companies, especially film producers.[73] The copyright-protected script for the film forms part of the security for the loan, which will be accompanied by a completion bond. This allows the film to be made, even if the original production fails.

A similar approach can sometimes be taken with music and film catalogs, which then also constitute security. However, the decision is primarily dependent on the level of royalties they generate. In effect, these are cash flow-based loans with added security.

In addition, Creative UK offers finance loans for high-growth creative businesses that are registered in the United Kingdom. The product aims to facilitate the generation of new IP in the creative industries, offering loan sizes ranging from GBP 100,000 to GBP 1 million.[74] Creative UK launched Creative Growth Finance II in September 2023, in collaboration with Triodos Bank, a new GBP 35 million fund to invest in the creative industries.[75]

The legal and regulatory framework for IP finance

Introduction

The context in which IP finance operates is shaped by several areas of law and regulation. While none of these areas prevent the wider use of IP in finance, they introduce complications that make full utilization of IP more challenging. A few of these elements are particular to the United Kingdom, though most of them are shared with, or have close parallels in, international practice.

These laws and regulations fall under three main headings:

- *Accounting standards*. In particular, the rules that dictate the financial information SMEs need to prepare and declare, and determine the extent to which value attributed to IP and intangibles can be reflected within company financial statements.
- *Financial regulations*. In particular, the rules that specify the capital treatment that banks must apply to different types of assets when lending to SMEs.
- *Common law and precedent*. This determines the ways in which effective security can be taken over assets in general, and IP and intangibles in particular.

The challenges that these laws and regulations present to the wider commercial utilization of IP and intangibles, summarized in relation to accounting standards and financial regulations, are relatively longstanding. They have become more pressing as the importance of IP has grown.

Accounting standards

Any business looking to obtain finance from a third party – whether from "informal" or "formal" investors, commercial lenders, grant providers or other sources – will need to produce financial statements to support their application or "pitch." The financial statements that carry most weight, especially with lenders, are those that are factual (historical) and comply with relevant accounting standards.

Three groups of organizations play a formal role in standard setting and monitoring:

- The *International Financial Reporting Standards (IFRS) Foundation* and the *International Accounting Standards Board (IASB)* are the two organizations that set international regulations and largely dictate the rules with which national approaches must comply.
- The *Financial Reporting Council (FRC)* is the UK body that regulates certain activities of auditors, accountants, and actuaries in the public's interest, and monitors and enforces action when necessary.[76]
- The *UK Endorsement Board (UKEB)* has responsibility for determining how international accounting standards should be implemented in the United Kingdom.

All of these bodies are aware of, and have an interest in, the difficulties that arise from the current accounting treatment of intangibles, especially when these assets are internally generated. For example, many of the difficulties summarized below were articulated in an FRC discussion paper on UK financial reporting entitled *Business Reporting of Intangibles: Realistic Proposals* in 2019.[77]

More recently, the UKEB launched a research project to consider how the accounting and reporting on intangible assets could be improved to offer more useful information to investors. As part of this work, the UKEB published a report in March 2023 setting out stakeholder views,

extracted from interviews and academic literature, on accounting for intangible assets under International Accounting Standard (IAS) 38.[78]

While all UK SMEs have to disclose some accounting information annually, they are not subject to the same statutory reporting obligations that are placed on large companies. This means that only limited financial insights are in the public domain. While there is a requirement to produce a balance sheet, the relevant regulations, which for most SMEs will be Financial Reporting Standard (FRS) 102,[79] mean that intangible asset value will only be represented in part, if at all.

The rules that prevent greater visibility of intangibles in accounting standards include a requirement to capitalize investment in them at cost rather than any concept of their market value; a requirement to amortize these costs over their expected useful life; limits on how they can be revalued; and a range of exclusions (for example, branding and marketing assets, and anything connected with research activity).

As a result of these accounting rules, innovative SMEs that make little use of tangible assets in their businesses often appear to have very weak balance sheets, unless they generate (or have raised) large amounts of cash. Their credit rating may also be influenced by the absence of a requirement to file a detailed profit and loss statement. The result is a lack of transparency, which is exacerbated by the absence of price and value comparison points for intangible assets.

A further complication arises when a business is acquired. Under these circumstances, the company purchase price will generally be allocated between three asset categories on the acquirer's balance sheet (tangible assets, identifiable and separable intangible assets, and goodwill). However, the intangible asset recognition rules are different, meaning that assets which could never have been shown in the purchased company's accounts will be present, and allocated a value, on an acquirer's balance sheet. The UKEB's report into stakeholder views on intangibles noted some stakeholders felt this practice favored firms growing through acquisition, at least when it comes to balance sheet presentation.[80]

One of the most compelling arguments for IP finance is that this value difference needs to be understood and liberated. As a minimum, there is an opportunity to unlock the full investment a company has made to assist its future growth; however, since the value of the IP to an acquirer may be much higher than its cost of creation, valuation based on associated cash flows is also important.

At the time of preparing this report, there are renewed suggestions that the rules governing the international accounting treatment of intangibles may be reviewed, due to the observable shift toward a knowledge-based economy.[81] As an example, the majority of respondents to the most recent FRC consultation took the view that the current requirements for intangible reporting should be investigated, especially to meet investor requirements. When IFRS published its work plan for 2022–26 it stated that there were three consistent messages from feedback, one of which was the subject of intangibles.[82] At a meeting in April 2022, the IASB agreed to add a project on intangible assets to its research pipeline.[83]

UK accounting membership bodies have also engaged in the discussion on intangibles recognition and utilization. The *Institute of Chartered Accountants in England and Wales (ICAEW)* has partnered with the IPO in recent years to offer webinars to members on how to identify IP and how to protect it. The *Association of Chartered Certified Accountants (ACCA)* has also partnered with UK IPO to create an educational webinar, to encourage members to talk to clients with more confidence on how IP can help secure finance and assist with grant applications. In June 2020, the president of the *Chartered Institute of Management Accountants (CIMA)*, Nick Jackson, articulated the need to move beyond numbers, and "recognise that the success of a business as exemplified by the figures on a balance sheet, have many other elements – tangible and intangible."[84]

Considerable challenges are likely to remain in terms of making major changes to accounting standards. Most intangibles are internally generated, and, with no arm's-length purchase price or clear external reference point, overstatement of their value remains a significant risk.

Financial regulations

Basel III, first published in 2010 (and still in the process of being fully implemented) is the most important international regulatory accord governing how banks lend. Its aims include mitigation of risk within the international banking sector after the global financial crisis, ensuring that banks have sufficient capital strength to resist financial shocks.

In the United Kingdom, the framework legislation governing the regulation of banking and financial services is the Financial Services and Markets Act 2000. Banks are regulated by three main regulatory bodies: the Bank of England, the Prudential Regulation Authority (a division of the Bank of England) and the Financial Conduct Authority (FCA). The PRA and FCA share overall responsibility for authorization, prudential matters and conduct of business, and the Bank of England's Financial Policy Committee is responsible for "macro-prudential" regulation of the UK financial system as a whole.

Basel III operates principally by requiring banks to maintain specified leverage ratios and minimum levels of reserve capital. Its approaches build on previous accords, but its rules are tighter in respect of business banking, particularly on the amount of capital banks are required to hold for certain activities.

This amount of capital is based on the risk of the exposure, and the ratio of capital to exposure is allowed to change if the bank has security over assets of known value that qualify for regulator-approved risk weighting treatment. Under the United Kingdom's implementation of Basel III rules, the calculation of these risk weights may be done using a standard approach, or lenders can use models to calculate the risk weight, subject to regulatory approval. These models should be based on actual lending experience.

Many tangible assets are accommodated within the standard approach, but intangibles are not. Moreover, for a bank to secure agreement to use its own models, it would need to have funded a large-enough book of unsecured IP loans to satisfy the regulator that the default and recovery risks are well-enough known. This becomes a "chicken and egg" situation, because building up sufficient evidence of this nature requires a substantial commitment of time and money. It may take a number of years to build up the data on defaults and recoveries to the level demanded by a regulator (and it follows that some loans will have to default, in order to gather data on recoverability).

At its heart, this complication is rooted in the same concern as accounting regulations like IAS 38; namely, that there is no external reference point for the realizable value of IP via transparent marketplaces. This viewpoint is accepted by the FCA, which states that intangibles cannot be classed as part of a firm's capital resource, as such assets cannot be realized instantaneously.[85]

This situation makes it more expensive for banks to lend against knowledge assets that drive growth than against tangible assets (such as domestic and commercial property) which may not. Also, as already observed, most fast-growth businesses own few, if any, assets that attract a standard rating. From a structural perspective, this also suggests that regulations which were designed to make banks safer are unintentionally encouraging continued bank reliance on tangible assets as collateral.[86]

Law and precedent

IP is classed in law as a form of personal property, which means it can be traded and leveraged in a number of different ways. However, dealing in licenses for certain types of IP is less well addressed by existing legislation.[87] The most important area for consideration in IP financing is the choice of structure to use for security purposes.

Aside from potentially advantageous capital treatment, security interests over assets of value serve three main purposes:

- They provide access to an asset of known value that can be sold to offset an unrecoverable loan default (a "secondary exit route" – the primary route being through the scheduled repayment of capital and interest).
- They promote good borrower behavior by acting as an added incentive to avoid default if possible and resolve any issues promptly.
- They help to address "information asymmetries" – inevitable gaps in knowledge between lender and borrower.

In the case of IP and intangibles, the usual practice is to take security by way of a combination of fixed and floating charges.[88]

For a fixed charge to be effective, notice of the security interest must be given. Also, the lender should be able to exercise a degree of control over them. By contrast, a floating charge, which only "crystallizes" or attaches at the point of a default, is better suited for assets that are continuously changing, such as stock in trade. IP assets are compatible with a fixed charge, provided the control point is addressed without unduly restricting the business. A floating charge works best for some intangibles, but is not favored for IP rights, especially because this form of security now ranks behind other categories of creditors in priority terms, most particularly HM Revenue and Customs (HMRC).

The position is slightly different in Scotland, where recent legislative changes[89] have been introduced to permit a non-possessory pledge to be taken and recorded on a new register, due to be effective from 2024. Until this legislation is implemented, the use of IP and intangibles as security still requires an assignation, which is complex; it requires notice to be given to all relevant third parties and has to be renewed whenever new IP is created (uncertain future rights are not assignable under Scottish law).[90]

To have priority over other financial interests, the detail of any security needs to be correctly and sufficiently recorded, primarily with the registrar of companies at Companies House[91] for England and Wales, or on the forthcoming Registry of Scotland database. Without detailed asset identifiers, there is a possibility that the charge will not attach to some or all of the IP being secured, especially as registered charges will "trump" any unregistered ones. Standard bank documentation in the United Kingdom has not historically included this level of detail, though lenders who are actively engaging with IP as either "comfort" or "collateral" are now developing much more thorough working practices.

Also, to ensure the notice mechanism is adequate, charges should also be recorded against registered IP rights on the appropriate official registers (which may be international). In the United Kingdom, this is done using forms TM24 for trademarks, Form 21 for patents and form DF12A for registered designs. The forms can either be signed by the grantor of the security interest (the IP owner) or evidenced via a copy of the security documentation.

Non-regulatory factors affecting the use of IP in finance

Introduction

Ultimately, none of the legal and regulatory complications set out in the preceding section prevent IP from being considered fully by investors and grant funders, or used as security for lending. However, the combination of these factors and IP's inherent characteristics, namely scalability, sunkenness, spillovers and synergies, plus uncertainty and contestedness, mean that the costs of structuring transactions that utilize them, and the level of confidence that can be placed in their recoverable value, constitute significant challenges.[92]

High transaction costs and lack of confidence in recoverable value can be traced back to several interrelated underlying factors:

- the relative unfamiliarity of the asset class in the finance context;
- the absence of transparent markets for IP assets; and
- a perceived lack of standardization in IP valuation processes and practices.

These factors affect finance availability in different ways depending on the business funding context. This context is summarized in the 'business funding context' section, followed by a brief examination of each factor, with a summary of specific measures that have been taken to address each of them.

Business funding context

The development stage of a business and the maturity of its IP portfolio will have a significant impact on the suitability and availability of different forms of funding.

Sometimes, finance may be required in order to create new IP assets. Within the academic context there are a number of funding sources that support research, and some grant programs are also available to SMEs. These are principally administered by the United Kingdom's innovation agency, Innovate UK, which is part of United Kingdom Research and Innovation (UKRI). Innovate UK also, under certain circumstances, can provide follow-on debt funding in support of asset commercialization activity.

Since demand outstrips supply, most such programs are competitive. Where applications are unsuccessful, not available or applicable, this early-stage funding is the domain of equity finance (generally via crowdfunding or informal investors such as business angels) rather than debt, because the business has no cash flows to support repayments. These mechanisms are summarized under the section "The legal and regulatory framework for IP finance."

In theory, where IP assets are already in existence, funding options will increase, especially where there is evidence of market traction. However, supply is not keeping pace with demand, especially for scale-up firms: the United Kingdom's ScaleUp Institute has estimated that the financing gap for this top 1 percent of SMEs has doubled to GBP 15 billion due to the pandemic (compared with a "normal" gap of GBP 5 billion–GBP 10 billion annually).[93] The absence of conventional collateral held by these knowledge-intensive companies contributes to this gap. Most banks will lend to these companies only once their balance sheets improve and their businesses mature.

Some of this demand will be satisfied by equity, but sale of shares becomes an increasingly expensive option as companies progress. Once businesses start to trade successfully, they

have an ability to service debt from their cash flows. This growth stage (that sits between startup/early stage and market maturity) is the area where IP finance is needed most and has most to offer.[94]

Unfamiliarity with IP

For IP finance to succeed at scale, three communities need to be confident about what IP is and what it contributes to business value: *companies*, their *advisors*, and the *financiers* they approach.

The knowledge-intensive, high-growth *companies* that are most likely to need, and benefit from, IP finance often have a good appreciation of the contribution IP (in its various forms) makes to their businesses. These would typically include businesses that are "spin-outs" from the knowledge base or have a high dependency on technology. However, even among this IP-intensive community, most IP audits supported by UK IPO add value by discovering assets that companies were previously unaware they owned,[95] suggesting a knowledge gap remains. More generally, accounting practices do not require companies to create a comprehensive inventory of their intangibles in the way that would be standard practice for tangible assets (in part, because IP tends to be internally generated).

The UK IPO currently funds a scheme (IP Audit) to provide eligible high-growth potential SMEs with a professional audit of their IP assets, following which the business receives a report with recommendations on how to develop an effective IP management strategy. In the financial year 2022–23, 475 such audits were funded.[96] Past evaluations of the IPO's audit scheme have noted that a proportion of businesses find their access to finance is facilitated as a result (23 percent reported subsequent equity investment and 30 percent received grant funding).[97]

The general imbalance in tangible versus intangible asset awareness, and the difficulties firms face in identifying and communicating the IP and intangibles they own, arises in part from an acknowledged lack of familiarity among *advisors*. For example, all businesses require the services of an accountant, but not all accountants have a good working knowledge of IP. For this reason, membership bodies have been receptive to working with the UK IPO and others to inform and educate their members. In order to address this, UK IPO provides an IP Masterclass course to upskill advisors from regional business support providers.[98]

Some categories of *financiers*, including private investors such as serial angel investors, have a strong interest in IP.[99] As already noted, they may expect to see an IP strategy in place prior to making an investment. This is true even if their investment may be required in order to create the IP and associated rights that the strategy describes. However, IP is not generally prominent in crowdfunding pitches.

The importance placed on IP by formal investors (such as VC companies and private equity houses) varies according to company development stage and sector. Patents are recognized as crucial in biotechnology and pharmaceutical companies, but even in these markets, greater emphasis will usually be placed on team quality/experience, growth potential and exit opportunities[100] than on IP per se.

As already noted, bank treatment of assets is heavily dictated by regulation, particularly in respect of the types of security that are eligible for capital relief under the standard approach. There is also a broader perception issue at work relating to any intangible assets that are shown on a company's balance sheet; lenders have historically been trained to discount any intangible value shown as "sunk" and therefore unrecoverable, and some may even question whether the value represents a liability rather than an asset.[101] This aversion to unfamiliar risks is understandable, but needs to be addressed for IP finance to work at scale, and lends weight to the view that some form of "safety net" is needed in order to give banks sufficient confidence to fully engage with IP.[102]

An Organization for Economic Co-operation and Development (OECD) publication, *Enquiries into Intellectual Property's Economic Impact*, noted that there is a lack of understanding of the potential that IP has as an asset.[103] This widespread unfamiliarity confirms the need to educate

companies, advisors and financiers on the importance of IP and the value that it can have for a company. Responding to this need, UK IPO has an established program of education, providing a range of online tools to inform innovators of IP generally and help them determine an appropriate strategy to protect their own assets.[104] The UK IPO has also provided training to the United Kingdom's network of Patent Libraries and Business & IP Centres (BIPCs) enabling them to upskill businesses.[105] In 2021, Patent Libraries provided workshops and seminars to over 20,000 attendees, alongside over 5,000 clinics and tailored responses to questions on IP matters.[106]

IP Equip

An e-learning tool helps businesses and business advisers understand IP rights. The tool contains four short modules and uses case studies to show how and why IP is important.

IP for Investment

Launched in 2019, this online tool was created to help prepare IP-rich firms seeking equity finance to grow. The tool is designed to help businesses identify and assess their IP assets in an investor context and communicate this as part of their overall business strategy.

UK IPO has also committed to extending its outreach to include more higher education-based researchers so that they can get the most out of the IP they create by understanding how to manage it.[107] Its initiatives include the IP for Research program, Intellectual Asset Management Guide for Universities, and specific tools such as Lambert Agreements to facilitate collaboration between corporations and the knowledge base.[108] For some years, it has also been engaging with younger inventors via its "Cracking Ideas" competition, run in partnership with the animation studio Aardman, which challenges youngsters to come up to an invention on a particular subject or question. The most recent competition, the 14th iteration, ran in 2023.[109]

Transparent secondary markets

As Haskel and Westlake explain,[110] "sunkenness," the difficulty of recouping investment via resale, is a property frequently associated with intangible assets, including IP. Where assets are internally generated, they may serve a very specific purpose, which limits their resale potential, especially in the event of a business failure – the possibility that most concerns lenders and investors.

Much of the literature around IP and its associated economics references the fact that secondary markets for IP are underdeveloped.[111] The reason that this issue looms large in discussions on IP finance is that intangible assets like IP are contrasted with tangible assets, many of which are regularly traded on open markets. These markets enable tangible asset value to be determined by reference to reliable external data sources, in sufficient volume to provide a high degree of confidence to lenders. The absence of these markets also explains why accounting standards do not permit revaluation of IP and intangibles in most cases (due to the perceived lack of reliable external points of reference).

Efforts have been made over the past few decades to establish various trading and marketing platforms for IP assets. Both the Danish Patent and Trademark Office (DKPTO)[112] and the Malaysian IP Office (MyIPO),[113] as examples, have provided pilot trading platforms allowing companies to offer IP assets for sale. However, both have identified operating challenges relating to listing quality, maintenance and pricing. DKPTO recently closed its IP marketplace following a 2022 review which found that a separate platform solely focused on trading IP was not seen as a viable way forward by respondents.[114]

The various international experiments with marketplace development have shown that it is difficult for any platform (that is not performing an auction function) to manage pricing and

quality without incurring substantial overheads. There are some exceptions, such as C-TEX in Beijing in the People's Republic of China, but since this is mandated by rules concerning the marketing of state-funded assets, it has a different underlying purpose and model.[115]

As a consequence, IP assets are usually traded in other ways. There are many brokerages operating in the United States of America (some of whom also trade in Europe and Asia) who regularly facilitate sales of IP asset portfolios; historically, two of the most prominent have been ICAP Patent Brokerage and Ocean Tomo. The issue for finance and accounting is that many of the transactions that are facilitated are conducted in secret, as this suits both parties (public disclosure of disposals and acquisitions may reveal strategic priorities or signs of distress).

The principal obstacle to better-functioning IP marketplaces is the natural limit to the supply of quality assets (which has a knock-on effect on demand). Companies owning IP assets that they regard as valuable will not sell them other than out of necessity, because they are integral to their business model (where a company does sell its core assets, it will most likely no longer be able to trade).[116] Many IP-intensive firms expect to realize their IP value by selling or floating the company as a whole rather than via an asset sale, especially if they are equity-backed.

A further complication arises from the internally generated nature of most IP. Unlike the majority of tangible assets that are traded openly, IP assets are not commodities. Comparing one IP portfolio with another is a complex exercise that seldom yields an accurate result owing to the unique nature, context and benefits each one offers. Transparent IP marketplaces might build lender confidence that assets can be marketed (given that this is an area in which they have little direct experience).[117] However, the values revealed by past transactions would not necessarily provide a reliable guide to the future.

While not leading necessarily to more transparent markets, it is notable that the UK Government is taking steps to increase awareness of the value and wider usage potential of Government-generated "knowledge assets." Two reports have been published, the latest being the *Getting Smarter*[118] report, aimed at encouraging wider commercial utilization. In response to the *Getting Smarter* report, the Government established a new cross-governmental unit in 2022, the Government Office for Technology Transfer, to better support the management, development, and exploitation of knowledge assets in the public sector.[119] In addition, the Government released *The Rose Book*, which provides guidance on knowledge asset management in Government.[120]

Valuation

In 2017, the UK IPO commissioned a study into the provision of IP valuation services in the United Kingdom, published as *Hidden Value*. This provided, among other things, an overview of the methods used (usually income-based, occasionally cost-based and infrequently market comparison-based); the motivations for companies to value their IP (almost invariably transaction-related); and the level of available provision.

From the survey responses provided, an important variance is apparent between intangible and tangible asset valuation. The number of professionals actively engaging in some way with IP value was around 600 at that time. Many of these valuers are employed by large accounting firms and generally only deal with IP value in the context of a business acquisition.[121] This is in stark contrast to the number of valuers operating within the well-established markets of land, property and construction asset valuation, at the time of the report which totaled 125,000.[122]

The variety of valuation methods that may legitimately be applied to IP is also in contrast with the pricing exercises regularly conducted for tangible assets. Tangible asset valuers and surveyors have ready access to market comparator information because these assets are regularly traded on their own. They are also known commodities, comparisons that adjust for age, condition, location and so on. This makes this type of valuation easier to perform. This difference fosters a perception that IP valuation is itself not standardized or reliable, making acceptance of an independent valuation of IP more problematic.[123]

Given the broad range of contexts in which IP value can usefully be considered, and the variable quantity and reliability of available data, valuers find it necessary to use a variety of approaches for different assignments. They frequently combine or compare methods in order to produce a more robust result. However, ways of using these approaches are well documented; set out by the International Valuation Standards Council (IVSC), specifically IVS 210 in the case of intangible assets.

IVS 210

IVS 210 is an international standard for the monetary valuation of intangible assets, including IP. It is published by the IVSC.

Building on the principles set out in existing accounting standards (particularly IAS 38 and IFRS 3), IVS 210 acts as an important reference point for valuers, setting out the bases of value and recognized approaches, together with guidance on important matters such as determination of economic life and discount factor setting. Specifically, IVS 210 sets out how market, income and cost approaches can be applied to arrive at an intangible asset value.

While IVSC does not have a regulatory role to enforce these standards, all reputable valuers follow them. Practitioners may opt to join the Royal Institute of Chartered Surveyors (RICS), a professional body that supports good practice by providing additional guidance notes on IP valuation.[124] RICS has also authored a supplement covering IP for *The Red Book*.[125]

Despite the presence of standards and qualifications, two complications remain for companies and financiers. The first is the question of whether a valuation, however diligently conducted, will prove to be reliable in the event of a business liquidation. First, the asset value is usually context sensitive. In other words, the IP of a distressed business is very likely to be worth less than that of a successful one, even if they were theoretically identical.

The second is the cost and time involved in conventional valuation and associated due diligence processes. Growth companies are often reinvesting profits in research and development (R&D) which may limit the free cash flows they can commit to expensive valuation exercises that may ultimately be unfruitful; and time is often of the essence in business finance. As WIPO's Singapore Country Perspectives has already acknowledged, these represent risks for companies that may discourage them from applying even when direct government support is available.

As noted in the earlier section on "Trends in commercial lending," research is providing new insights into the positive effect IP has on outcomes in the event of a loan default. Also, as the IP finance market develops, solutions are emerging that address the challenges of fitness for purpose, consistency and cost:

- *Fitness for purpose*. Financiers need a view of current IP value, in other words the value it represents to the business and its stakeholders today. Financiers also need an estimated IP value in cases of an orderly disposal situation, which is likely to be lower, for the reasons stated previously. This combination provides visibility of the leverage IP represents for a lender or investor, and a well-evidenced starting point for value recovery should this become necessary.

  The first of these is well documented in valuation standards (and can be achieved using income or cost methods depending on the nature of the IP and the funding instrument being used). The second has traditionally been estimated by applying discounts to going concern value but requires detailed IP and market analysis to build confidence. The cost of this analytical work is starting to reduce due to artificial intelligence.

- *Consistency and cost*. In addition to a number of individual specialist IP valuation "boutiques," standardized valuation tools are now increasingly in use by those UK lenders engaging with IP for either comfort or collateral purposes (see the section "Trends in commercial lending").

These bring down the cost of valuation and assessment using methods that are optimized to the specific circumstances of a loan transaction. They provide an alternative to custom report services, which may still benefit investors, especially where a technology in question is new and unproven.

The role of Government in IP finance

Introduction

In the United Kingdom, the overwhelming majority of business funding (via equity and debt) is provided by the private sector. However, where barriers to innovation exist (in financial services as in other areas), Government has a number of important roles to play, as researcher, organizer, sponsor and convenor.

As this section will explore, a number of agencies play a role in facilitating an environment that is conducive to IP finance. The most relevant activities related to IP finance are summarized in the following.

Intellectual Property Office

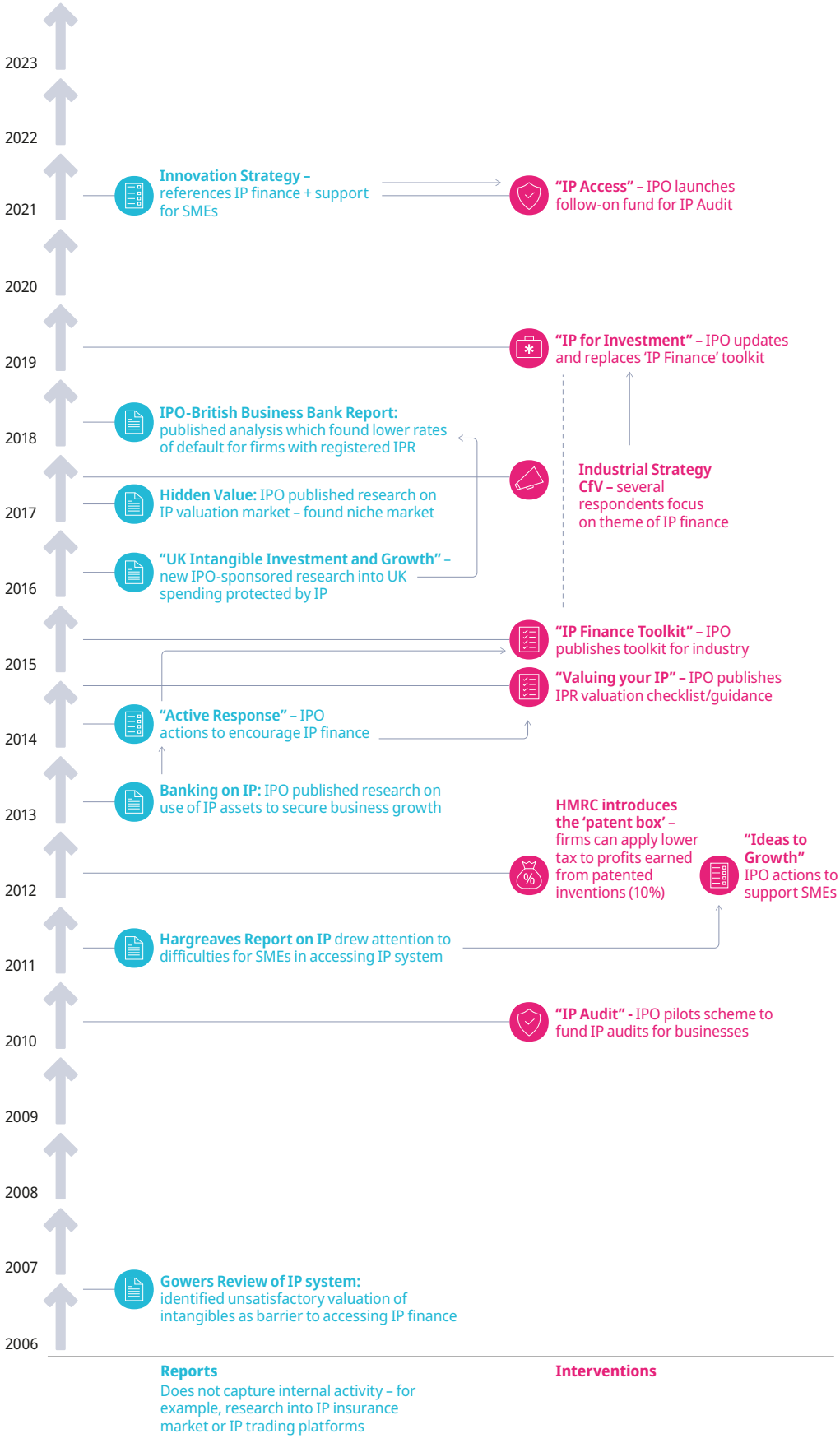
The Intellectual Property Office (UK IPO) is responsible for the policy and operational aspects of most IP rights, including the IP legal framework and rights granting services.[126] It is an executive agency of the Department for Science, Technology and Innovation (DSIT).

The role of UK IPO has evolved in recent decades. There has been a greater focus on tackling IP infringement, addressing market barriers abroad and supporting businesses to better identify and manage their IP assets. The IPO's education policy focuses on ensuring access to high-quality learning resources related to IP, including targeted materials for research-led spin-out companies.[127] As part of the UK Government's "Levelling Up" agenda, which aims to spread opportunities and boost economic growth across the United Kingdom, the IPO has regional policy advisers who work with local innovation support providers and aim to develop IP capability among local innovation, enterprise organizations and policymakers.[128]

As Figure 7 notes, UK IPO has also led important enabling activities for IP Finance, including research into the relationship between them. It commissioned the 2013 publication *Banking on IP? The Role of Intellectual Property and Intangible Assets in Facilitating Business Finance* to examine whether companies and financiers could do more to leverage the value of intangibles.[129] In response, UK IPO published a further paper, *An Active Response*, which led to the agency boosting its business outreach, expanding its IP Audit scheme, and aiming to promote improved understanding of IP and its value by developing the toolkits previously referenced.[130]

Banking on IP was followed in 2014 with guidance on how to value IP,[131] and by an IP Finance Toolkit. In 2019, following a consultation seeking ideas to improve the IP system, the IPO rebranded and updated the toolkit into the "IP for Investment" toolkit to help firms become investor ready.[132] The toolkit forms part of a wider suit of IP for business online tools. As valuation continued to prove a barrier to lending, the UK IPO subsequently commissioned the 2017 report *Hidden Value: A Study of the UK IP Valuation Market*. This included consideration of the availability of suitable services and the motivations and contexts for IP valuation, as well as investigating the different methods in common use.

Figure 7 Timeline on key events related to IP finance



Source: Intellectual Property Office.

Other contributions to understanding of the economic role of IP assets include the 2016 IPO report, *UK Intangible Investment and Growth: New Measures of UK Investment in Knowledge Assets and Intellectual Property Rights*, which found clear evidence that investment in intangibles had been outstripping that in tangible assets since the early 2000s.[133] UK IPO and BBB have also conducted joint research to explore the relationship between IP and loan performance, as explained in the section "Trends in commercial lending."

The Department for Science, Innovation and Technology

The Department for Science, Innovation and Technology (DSIT) is the Government department responsible for positioning the United Kingdom at the forefront of global scientific and technological advancement. DSIT aims to drive innovation to deliver improved public services, create better-paid jobs and grow the UK economy. DSIT is supported by 15 agencies and public bodies to deliver these priorities, including the IPO, UKRI and the UK Space Agency.

DSIT works with other departments to realize the Government's objectives to promote innovation objectives. DSIT is responsible for the United Kingdom's recently launched *UK Science and Technology Framework*, which sets out goals through to 2030.[134] DSIT is also responsible for the UK *Innovation Strategy*. Notably, this explicitly acknowledges issues that IP finance policies can help to address: "information asymmetries and coordination failures [which] mean that smaller, earlier-stage businesses can be overlooked by investors, and IP-rich companies with substantial intangible assets can find it difficult to secure debt finance."[135]

HM Treasury

HM Treasury (HMT) is the UK Government's economic and finance ministry, maintaining control over public spending and setting the direction of economic policy. HMT is supported by 15 agencies and public bodies, including the FCA.

Department for Business and Trade

The Department for Business and Trade (DBT) is the department responsible for economic growth, including delivery of a pro-enterprise regulatory regime and trade promotion. DBT is primarily responsible for many of the schemes, grants and other forms of support available to SMEs to promote growth. This includes many of the bodies already referenced, such as the BBB.

DBT's responsibilities include the provision of advice and support to help British businesses to grow and export. As part of this work, DBT seeks to attract inward investment into the United Kingdom to support businesses, such as IP-intensive science and technology firms, to access finance. For example, DBT's Venture Capital Unit (VCU) connects prioritized early-stage and growth companies with international VC firms, VC funds and institutional investors.[136]

The VCU identifies and works with UK science and technology companies, prioritized through their involvement in critical sectors. Companies which apply to the VCU will be reviewed against several factors, including IP, capital requirements for the pursuit of their business plan, and the current Technology Readiness Levels.[137] UK companies accepted by the VCU as "Dealflow" will then be presented to appropriate VC firms.

British Business Bank

The British Business Bank (BBB) is a UK Government-owned economic development bank established in 2014. The BBB operates as an arms-length body of DBT. Its core mission is to drive sustainable growth and prosperity across the United Kingdom by improving access to finance for smaller businesses.

The BBB delivers a wide range of finance programs, each designed to address market failure and help improve access to finance for SMEs from startups to firms looking to scale up. The BBB

mainly operates not by lending or investing directly with smaller businesses but by deploying funding and support through over 2,000 delivery partners on a wholesale basis. Such partners range from the largest banks to small VC providers and new innovative players on the market.

The BBB currently operates more than a dozen programs designed to enhance SME access to finance, including via its:

- equity investments into funds and co-investments through British Patient Capital (Life Sciences Programme and Future Fund: Breakthrough) and British Business Investments (Managed Funds and Reginal Angels Programme);
- long-running set of schemes to support mainstream bank lending to SMEs, including a government-backed debt guarantee scheme targeted at SMEs who lack sufficient collateral to access conventional loans; and
- recently launched Nations and Regions Funds, to address regional market gaps through both debt and equity funds.

Alongside these programs, the BBB also supports SMEs and the broader economy by providing key insights and research into the state of the market (as utilized in this report) to inform and influence policymakers.

UK Research and Innovation

UK Research and Innovation (UKRI) is a non-departmental public body sponsored by DSIT. It is the national funding agency investing in science and research in the United Kingdom.

UKRI funds researchers, businesses, charities and non-governmental organizations (NGOs) that are innovating in the United Kingdom, with Innovate UK being the primary delivery route to SMEs. Grant-funding opportunities can range from GBP 25,000 to GBP 10 million, with SMEs also being eligible to apply for innovation loans between GBP 100,000 and GBP 1 million.[138]

Innovate UK has published a table of the grant awards given to SMEs and micro-businesses over the last 13 years.[139] This grant funding can be instrumental in enabling innovative entrepreneurs to start an IP-intensive businesses.

Innovate UK also now oversees the provision of other business support services to SMEs, including high potential scale-up companies, under the Innovate UK Edge brand. In England, Innovate UK Edge has acted as UK IPO's partner in delivering the IP Audits and IP Access funding schemes, identifying eligible innovative, high-growth potential businesses. In Scotland, the schemes are delivered in partnership with Scottish Enterprise and Highlands and Islands Enterprise; in Wales, with the Welsh Government; and in Northern Ireland, with Invest NI.

HM Revenue and Customs

One of the ways in which innovation can be incentivized and rewarded is through the tax system. HM Revenue and Customs (HMRC) provides SMEs with tax incentives when they spend money on R&D and also enables them to claim a lower rate of tax through the "Patent Box"; the Venture Capital Schemes (VCS) offer tax incentives to investors to encourage equity investment in certain trading companies that would otherwise struggle to access the finance they need to grow and develop.

Like many other global economies, the UK Government offers companies the potential to claim corporation tax relief where projects meet the government's definition of R&D. To claim the relief, each project that is the subject of an R&D tax credit claim needs to explain how it involves a potential advance in science and technology, has a requirement to overcome uncertainty, and requires effort and skill that goes beyond the knowledge a practitioner in the field would already have.[140] The scheme is currently subject to review and a number of changes have been made. The UK Government is currently considering merging the two R&D schemes, with draft legislation published in July.

Patent Box also exists in various forms internationally, though the rules concerning the assets that are eligible and the concessions that are provided vary considerably, within the criteria set out by the OECD. The United Kingdom's version was introduced in 2013, with the goal of encouraging businesses to keep and commercialize their IP in the United Kingdom. The relief was phased in from 2013, coming fully into force in 2017. Following the G20-OECD Base Erosion and Profit Sharing (BEPS) project in 2015, the Government launched a further consultation, which led to changes effective for all from July 21, 2021. The Patent Box now includes a "nexus" requirement to discourage profit shifting.[141]

For smaller and younger companies seeking to raise investment, as noted in the section "Trends in equity investment," the three VCS provide a valuable way of accessing finance by incentivizing investors to provide risk capital. The three schemes – Enterprise Investment Scheme (EIS), Seed Enterprise Investment Scheme (SEIS) and Venture Capital Trust (VCT) scheme – offer investors a range of income and capital gains tax reliefs for subscribing for new shares in these companies. The EIS and VCT scheme enables firms that qualify (for which an advance assurance can be sought) to raise up to GBP 5 million per annum or GBP 12 million over their lifetime provided the first investment takes place within seven years of a first commercial sale (there are different and more generous rules for companies that qualify as being knowledge-intensive). The SEIS is aimed at startups and very early-stage companies and, recognizing the particular difficulties such companies face in attracting investment, offers a more generous rate of 50 percent income tax relief, but only on investments up to GBP 200,000.[142]

Devolved governments in Scotland, Wales, and Northern Ireland

While management the United Kingdom's IP framework is a reserved matter[143] handled centrally by the IPO, a number of responsibilities and programs for supporting innovative businesses are also administered by individual governments within the United Kingdom.

In Scotland, the primary point of contact for businesses is likely to be with either Scottish Enterprise or with Highlands and Islands Enterprise. These provide a gateway to grants for SMEs (such as SMART: Scotland, targeted at R&D funding, offering a maximum of GBP 100,000 at a rate of 70 percent of eligible costs), and investment funds run by Scottish Enterprise, which include a Scottish Loan Scheme of GBP 250,000–GBP 2 million, a co-investment fund and a venture fund.[144] The Business Gateway website also provides additional guidance on finance, pointing new and growing businesses in the direction of finance providers for grants and loans available to them.

In Wales, the Welsh Government has a focus on innovation delivered through a variety of initiatives, now delivered through Business Wales. It provides a range of support services to innovative companies, including partnership with IPO to provide access to IP Audit grants, and assistance with finding funding, some of which is available through the Development Bank of Wales (DBW, formerly Finance Wales). DBW offers equity investment to Welsh tech companies, ranging from GBP 50,000 to GBP 2 million, which can be accessed by qualifying businesses at startup, early stage or established stage. The criteria for DBW's tech-venture investment requires businesses to have robust IP.[145]

In Northern Ireland, the IPO's delivery partner for the IP Audit schemes is Invest NI, which also offers its own range of support services to businesses, including innovation vouchers which can be used to purchase knowledge from local research institutions. It also administers a program of R&D grants which offer up to GBP 50,000 of financial support.

Planning for the future

Moving forward

While there are a growing number of examples of emerging good practice in the use of IP in finance, more can be done to encourage and facilitate the development of this market. The UK Government has an active interest in ensuring that innovative, IP-intensive businesses can use their IP as an asset to gain access to the right type of finance at the right time, so that they are able to scale up and grow.

The recent UK Science and Technology Framework aims to ensure that there is a sufficient supply of capital at all stages of development for innovative firms. The strategy aims to develop a scale-up ecosystem capable of nurturing the next generation of globally competitive science and technology companies. The UK Innovation Strategy recognized the importance of future-proofing the United Kingdom's finance markets such that intangible assets, including IP, are properly considered as part of lending decisions.

UK IPO's Corporate Priorities 2023 to 2024 commits the agency to review its office-wide approach to supporting innovative SMEs in making the most of their IP assets (Priority 4).[146] As part of this review, UK IPO will work with industry, other Government departments and international partners, such as WIPO, to understand recent progress in IP finance and identify areas for future intervention by UK IPO to support innovative firms secure financing based on their IP assets.

In addition, UK IPO will work with regional development organizations, partners, IP professionals and SMEs to help inform the development of a long-term, sustainable policy on financial support for SMEs that delivers both value for money and impact.

UK case studies

Case study 1:
Eseye

Company Sector
Information technology

Company Location
United Kingdom

Type of IP rights used
Patents and trademarks

Institutions or entities that enabled the transaction
Venture debt product from Virgin Money, facilitated by IP valuation

Amount raised
GBP 4 million

Eseye (pronounced "S-I") is a market leader in cellular technology for a wide range of devices that rely on being connected as part of the Internet of Things. The heart of the company's platform is a highly flexible SIM card, equipped with proprietary firmware, which is capable of communicating via multiple mobile networks (so that devices can always stay connected even in the event of signal problems).

Headquartered in Guildford in Surrey, Eseye's customer base includes global enterprises looking to deploy large numbers of devices around the world. These multinational clients benefit from Eseye's expertise in integrating mobile connectivity via a software platform that interlinks all the different network operators.

The Internet of Things can be used to connect anything from a vending machine to a tracking device (and even a medical diaper). So, when you next pick up a coffee from a vending machine, use a smart meter, or collect a package from an Amazon e-locker, your transaction may be reliant on Eseye's technology.

The founders of Eseye, Ian Marsden and Paul Marshall, had previously set up and sold the company that developed the Zigbee nearfield communications standard. After exit, they considered which other markets might benefit from a similar approach. In 2006, the mobile-to-mobile (m2m) space was a muddle, with different standards and little interoperability, so was a prime target.

The founders had a keen appreciation of the importance of patenting from the start. One or both of their names appear as inventors in all 19 patent families applied for by Eseye, with the earliest dating back to 2008. These offer the company protection in a range of commercially important territories, principally in the United Kingdom, Europe and the United States of America.

Eseye also has a range of national and international trademarks protecting its branding. Its registered rights (word and image marks in the United Kingdom and Europe) principally cover the company's "Anynet" product brand and its derivatives. The company has also recently applied to protect its Infinity IoT Platform across Europe and in the United States.

The company has weathered the COVID-19 storm better than many because its core revenues were largely unaffected. This resilience is particularly attractive to funders, as chief financial officer Tony Byrne explains: "If you think of a vending machine company who might have 100,000 machines out there, each paying 75p per month per device, it's very much like a securitisable income stream, which is the just the sort of revenue base lenders look for."

Byrne had experience of dealing with Virgin Money (formerly known as Clydesdale Bank) from previous enterprises. The bank's Growth Finance product has historically specialized in venture debt, where lending can be provided where there is existing equity investment from a recognized VC company or private equity firm. At the time of its first venture debt financing in 2018–19, Eseye had already received early series A funding from a US fund, Quona, but was looking for non-dilutive growth capital to help the company achieve its next business milestones, so that it could raise further equity at a higher business valuation.

IP and value-generative intangible assets are crucial to venture debt lenders because they are at the core of a company's business model. They also make ideal security, as the investors who have already supported the business recognize that these assets are critical to a business's growth and its exit prospects. Should a business get into unexpected difficulties, control over the IP puts a bank in the best position to agree a funding strategy with investors that can rectify the situation.

For Eseye, the strategy worked as anticipated. The GBP 4 million borrowed from Virgin Money in early 2019 put Eseye in a position to achieve the progress needed to close a new equity raise worth GBP 15 million in December of the same year with Telus Ventures, a Canadian mobile operator. The company value appreciated considerably between its equity rounds, enabling Eseye to reinvest more in the business with less dilution. Since its last equity round, Eseye has grown from 100 to 150 employees, and its annual turnover has now reached a run rate of GBP 24 million.

Byrne has recently concluded a further refinancing package, again with Virgin Money, at GBP 7 million. "We've got the IP base, and we've got investors who have been shown to participate in multiple rounds, which is always important to raise venture debt. The IP is key to this, along with the very stable nature of the cash flows."

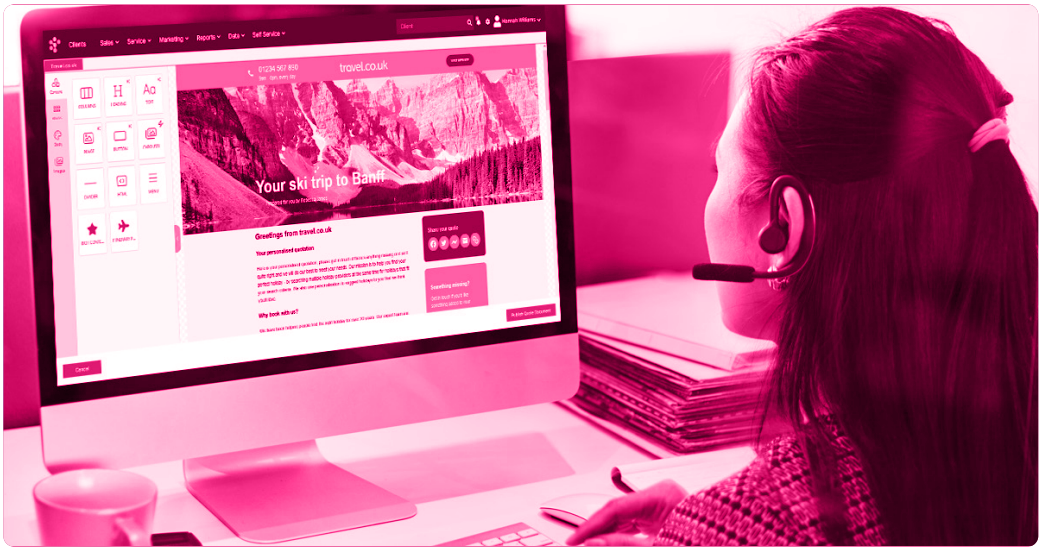
Coming back to Virgin Money for further funding was a simple decision for Byrne. "I know the guys really well; I put them into my last business. I just find it very straightforward – it's a really clean, quick, easy process."

One of the concrete differences with other venture debt providers is that the bank chooses to charge success and exit fees rather than insisting on warrants, which can prove to be very expensive if a company experiences strong growth. "There are some much more, shall we say, aggressive venture debt funds out there; Virgin Money is much more akin to a friendly banker."

Byrne also considers that the product serves an important role in the financing market. “Equity is not necessarily always an option, or would be pretty dilutive at certain stages of the business. Also, there can quite often be a funding gap when you fall halfway between growth equity and VC funding, which is probably where we sit. It’s been really helpful to get us to a stage where we are now much more interesting to some of the larger funds.”

Byrne concludes: “the venture debt has really helped us – it was certainly pivotal to us raising our GBP 15 million round with Telus.”

Case study 2:
Inspiretec



Company Sector
Software

Company Location
United Kingdom

Type of IP rights used
Copyright-protected software and trademark

Institutions or entities that enabled the transaction
IP-backed finance product (asset sale and license back) from Lombard

Amount raised
GPB 2.5 million, followed by additional GBP 2.75 million after revaluation

Inspiretec is a technology provider to the travel and leisure market. Established by Simon Powell 30 years ago, the company now provides a complete customer experience management platform for customers ranging from global tour operators to individual holiday parks, consisting of three integrated software systems covering relationship management, reservations and websites. Headquartered in Cardiff, Inspiretec has operations in Canada, India and the Philippines, currently employing around 100 people. While the United Kingdom remains its single largest market, its customers are international.

Inspiretec's revenues have two main components: a core base of recurring revenues from ongoing subscriptions to its platform (which are all contractually based), supplemented by customization and bespoke development work. The subscriptions all take the form of software licenses, and the copyright-protected software systems (built up over many years – more than 20 years in the case of the reservations system – and now consisting of millions of lines of code) are the company's core asset. Historically, this expansion has been funded via private equity, before being replaced with a senior debt facility.

The company has also engaged with the formal IP registration system. Its first action was to protect the trademark associated with its reservation system, Travelink, in 2010. Since then, the company has decided to brand all its platform components under the company name, and so has focused on protecting the Inspiretec trademark – initially in the United Kingdom as its single largest market.

However, virtually none of Inspiretec's long-term investment in software and systems is visible on the company's balance sheet. Historically, the company has entirely expensed its software

development rather than capitalize any of it as an intangible asset (as is permissible in the United Kingdom subject to meeting certain criteria). This lack of visibility caused challenges for the business when seeking to restructure its senior debt facility at the end of 2019; conventional lenders all wanted to apply highly restrictive covenants, as they looked solely at EBITDA[147] in the absence of visible assets.

Instead, in early 2020, Inspiretec turned to the IP Finance product from Lombard, part of the NatWest Group. Rather than focus on the balance sheet, Lombard looked instead at the investment made in the company's technology, evidenced by expenditure records such as Research & Development Tax Credit claims, and at the recurring revenues associated with the software and systems. As an asset-based lender, Lombard then took an ownership interest in the software platform, licensing its use (and responsibility for maintenance) back to Inspiretec on an exclusive basis. This approach freed up an initial GBP 2.5 million which was primarily used for debt restructuring, which enabled the company to increase its investment in systems during the pandemic.

More recently, having paid off GBP 1 million of the initial tranche of debt, and following Lombard undertaking a valuation refresh, the facility has been renewed at GBP 2.75 million. This has provided capital to fund international expansion and brand development, as well as important software development.

Managing Director Matt Wakerley says Lombard's approach was "massively refreshing." He explains: "They were able to get 'under the skin' and value the IP asset. It was music to our ears; it was exactly the type of funding we were looking for."

Wakerley adds: "The transaction was probably the most painless I've ever been through, having raised funding for different companies over the years. It just works for us; we know that if we are investing in R&D, it's just increasing the value, and improving our ability to leverage finance."

Lombard's willingness to revalue the IP and increase the amount lent meant the company could continue to invest throughout the pandemic. "To be able to go back to Lombard, for them to recognize the extra value we had created and give us the extra funding to invest more – it's been brilliant."

The pandemic hit most of Inspiretec's customers hard, and the business's revenues fell from GBP 8.4 million to GBP 6 million as discretionary spending by travel companies all but disappeared. However, the "new normal" that has followed it has created fresh opportunities to grow the business, which grew by around 20 percent in 2021.

As an example, lack of experienced staff is a challenge across the hospitality sector, as many left the industry out of necessity. This has increased market appetite for automated systems that can improve communications between travel agents and tour operators. Securing the recent additional funding has enabled Inspiretec to invest further to meet this demand.

In fact, Wakerley has been so impressed with Lombard and its IP-based finance product that he is telling every software company he comes across about it. "It's really modern thinking and something that has been massively lacking, in my view."

Case study 3:
Neuro-Bio

Company Sector
Life Sciences – biotechnology

Company Location
United Kingdom

Type of IP rights used
Patents

Institutions or entities that enabled the transaction
Equity investment supported by IP valuation

Amount raised
USD 3 million

Neuro-Bio, based at the Culham Science Park in Oxfordshire, is a privately owned biotechnology company with a focus on addressing neurodegenerative disease. Its chief executive officer and founder, Baroness Professor Susan Greenfield CBE, is a neuroscientist with over 220 publications to her name over the course of a 40-year career.

Under Baroness Greenfield's leadership, the company was spun out of Oxford University, although unusually the university has no equity or royalty rights. Its focus since its foundation has been a novel 14 amino acid bioactive peptide (T14) which is neurotoxic in the adult brain. Published data shows this peptide to be a potential driver of diseases such as Alzheimer's, which with other types of dementia is estimated by the NHS to affect 1 in 14 people over 65 and 1 in 6 people over 80.

Over the course of a number of years, Neuro-Bio has identified the subset of cells that are vulnerable in Alzheimer's Disease; explained why they are prone to degeneration; proven that T14 (as the pivotal toxic peptide) is a feature of the brain in Alzheimer's sufferers; and developed a novel animal model. Latterly, despite COVID-19, it has designed a T14 "blocker" as an effective therapeutic drug and been able to prove its behavioral and histological effects. This has now set the company on the path of new enabling studies, with a view to getting investigational new drug (IND) ready, and ultimately commencing Phase I clinical trials.

In addition, the company's focus now extends beyond Alzheimer's. As Baroness Greenfield explains, "we believe the pivotal mechanism that underlies neurodegeneration is actually a basic biological process for cell growth and renewal that can occur in other parts of the body – for example in metastases and in the skin." This discovery has broadened the company's sphere of interest and has given it access to more accessible models that can accelerate the core neuroscientific work. It has also formed the basis for new collaborations, including with Unilever in the case of possible skin treatments.

Throughout the course of its R&D activity, and since 2013, Neuro-Bio has protected its discoveries with patents, which now extend to 14 filed families (with three more in the current pipeline). The earliest applications primarily concerned specific peptide variants for treatment of neurodegenerative disease, but soon broadened to include cancer treatments, and extended to cover diagnostics as well as therapeutics. Three filed families now specifically address skin applications. Grants have been obtained for the earlier patents in a wide range of territories, including Australia, the People's Republic of China, Europe, India, Japan and the United States of America.

Neuro-Bio was able to get started with an initial GBP 500,000 angel fundraise which valued the company at GBP 5 million. The company subsequently engaged with IP valuation to assist its fundraising activity in 2016, which helped the business raise USD 3 million at the time.

Baroness Greenfield has no doubt that patents are essential to obtain finance in her field. "If you're not protected and other people can just copy you, you're not going to be able to raise funds from your investors. It's the first thing they ask. One of our opening slides shows how many patent families we have. In fact, our standing order to our patent attorneys, Venner Shipley, for maintaining our portfolio is our top expenditure priority."

Since that raise, there have been a number of further rounds. "During Covid we had a B2 round, which is just closing now. We benefitted from the BBB's Future Fund, which at the time was matching investment pound for pound. That fundraise will take us through to mid-Q1 next year, and we are now working on a £10 million series C round at a pre-money valuation of £40 million. That in turn should last us two years and take us through to Phase I, as well as continuing to develop the variants on skin and cancer, and keeping the lights on!"

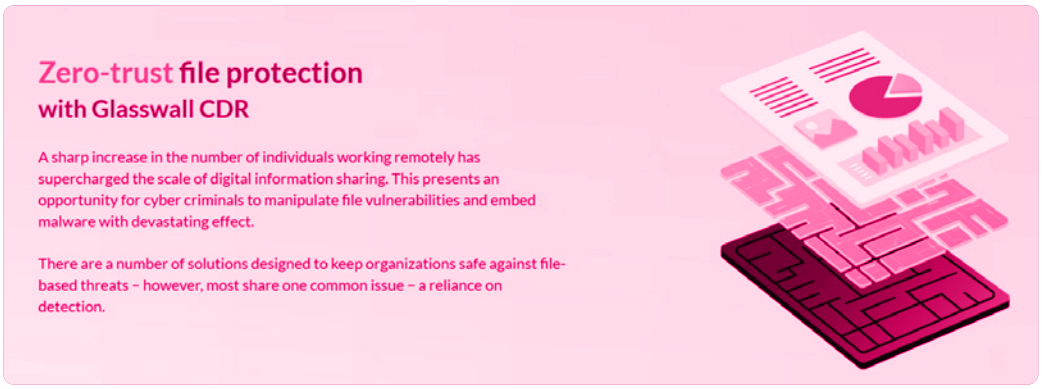
Baroness Greenfield has had to pivot from her academic background to present the company in a way that investors can understand. "I wasn't born and bred in the pharmaceutical industry, or indeed in the private sector. It's easy to talk science to scientists, but you have to find a way of talking to non-specialists that doesn't patronise them (or bore them rigid) but gives them enough detail."

"The main problem is gaining investors' confidence, especially for something ground-breaking – they would perhaps just call it 'different.' People are inherently conservative, and the greater the amount of money involved, the more they seem to want the best of both worlds; they don't want too much risk, and yet they want high returns."

In terms of funding sources, Baroness Greenfield concludes with the following advice to other biotech companies: "You must be very aware that it's horses for courses. You start off, as we did, with angels, because the amounts of money required are below the radar of VCs. At that stage, people are prepared to take a risk, because they've been there themselves. You then get on to the VCs at series A, which is a difficult transition, because you are dealing with a different type of person. You have to be very careful about what goes into the shareholder agreement, for example, and carefully consider the milestones proposed, which may not be realistic."

"Series A to B was quite straightforward, but B to C is more difficult because you're seeking to raise double-digit millions, typically from a mix of VCs and family offices. We wouldn't consider approaching pharma companies until we're in Phase I – though of course they are welcome to talk to us if they wish!"

Case study 4:
Glasswall



Company Sector
Cybersecurity

Company Location
United Kingdom

Type of IP rights used
Patents, copyright, and trademarks

Institutions or entities that enabled the transaction
Growth lending product from HSBC UK, supported by IP valuation

Amount raised
GBP 5 million

Glasswall, a UK-based cybersecurity company with offices in London and the United States of America, provides organizations with a unique defense against known and unknown cyber threats in files and documents through its innovative, patent-protected zero-trust CDR (Content Disarm and Reconstruction) technologies.

Glasswall used its IP and intangible assets to help secure a GBP 5 million funding package from HSBC, as part of the UK lender's GBP 250 million Growth Lending fund, which it launched in July 2022 with the express purpose of supporting tech scale-ups.

Glasswall's technology works at an individual file level, validating, reconstructing and cleansing each file to eradicate potential security risks. By providing a system that is both robust and scalable, Glasswall addresses the evolving cybersecurity needs of businesses worldwide.

Rather than searching for known threats, CDR assumes every file a company receives is suspicious. It disassembles them and then rebuilds them to known manufacturer specifications. Glasswall's solutions conform to security industry standards, including the US National Security Agency's Inspection Sanitization Guidelines.

The deal, announced in July 2023, was the eighth under the HSBC Growth Lending fund, which includes, as part of the credit underwriting process, the use of specialist online IP identification and valuation tools to quickly and easily identify and value prospects' IP and intangible assets.

Glasswall wanted the new funding to expand its existing operations in the United States of America, as well as into new markets including Canada, Australia, and New Zealand. The company aims to continue its growth rate and achieve profitability in the next 12 months.

Under the HSBC Growth Lending product, HSBC will provide loans of up to GBP 15 million for growth and to support the firm's transition to profit. As part of the credit assessment process, all companies have their IP valued; key assets are individually identified and made subject to

a fixed charge. Ten deals have been completed to date, to companies operating in a variety of sectors, including advanced coatings, personal technology products and cybersecurity.

To support the delivery of loans at scale, HSBC UK requires applicants to use third-party specialist online IP identification and valuation tools to quickly and easily identify and value prospects' IP and intangible assets.

Steve Roberts, CFO/COO of Glasswall, says using the online tools "was very intuitive and wasn't too time consuming at all. We had all the required data to hand, as you would expect for a company at our stage in our sector, so it was a very efficient process, and the resulting valuation certainly gave HSBC additional comfort in its lending decision."

Through its 100 percent-owned Subsidiary Glasswall IP Limited, Glasswall holds a total of 82 patents globally, including in the United States of America, the United Kingdom, Europe, Australia and Japan, with a number of other patents pending.

Roberts adds that the idea of a lender taking security over specific, identified IP, as opposed to a general charge over all assets, was new to him, but made perfect sense. He also recognized that HSBC was using external IP identification and valuation tools to provide its lending team with "a third-party view on the actual IP valuation, which will give them some comfort over the security charge that's contained within the loan."

He adds that the IP valuation did not just cover Glasswall's patents, trademarks and copyright: the company also has considerable expertise in "the way we can scale our technology – that's something we have worked on for the last couple of years in particular, and we've made massive strides. We can now deal with petabytes and petabytes of files in a short space of time. We're very much aware we're making advancements in our technology that doesn't always fall under a patentable area, but we'll patent what we can, and continue to develop and improve our technology and protect that the best way we can, in terms of confidentiality and trade secrets."

Endnotes

1 This report does not consider cases where IP and intangibles are not actively considered (for example, where a security interest taken by a lender simply purports to cover "all assets").

2 References to "IP" and "intangible assets" in this report exclude the benefit to a business of having a skilled workforce, as employees are not assets a company owns. Employees do, however, form part of wider intellectual capital to which a business has access, and may contribute to organizational improvements and business processes that are capable of being protected under IP law.

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7 As shown in Figure 2, of the many intangible assets that a business may own and use, not all are IP-related. For example, "mineral exploration" assets included in ONS intangible data may include investment associated with rights to explore and drilling rights. This is an example of the non-physical assets that bring value to businesses in the mining sector.

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126 UK IPO is responsible for the policy and operational aspects of most IP law in the UK, such as patents, copyright, trademarks, trade secrets, or designs. However, certain aspects of the UK's IP system are also managed by other Government departments: for example, the UK's register of sui generis rights for agriculture food and drink geographical indications (GIs) is managed by the Department for Food, Environment, and Rural Affairs (Defra).

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