FINANCING OF WELSH SMEs &
THE COMMODIFICATION OF IP RIGHTS

IP WALES RESEARCH REPORT
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Intellectual Property Wales (IP Wales) is a new £2.8million business support initiative with the aim of helping Small & Medium Enterprises (SMEs) in Wales to grow their business through the use of all aspects of intellectual property.

Based upon a successful pilot project under the Wales Regional Technology (RTP) Action Plan (June 1996 & Review and Update, February 1998), IP Wales has three distinct though kindred tasks, namely, raising the awareness of IP amongst SMEs, helping SMEs to protect their IP assets and helping SMEs to commercially exploit their IP assets.

The target membership is firms based in Wales with fewer than 250 employees and either an annual turnover not exceeding ECU 40 million, or an annual balance-sheet total not exceeding ECU 27 million, which are not owned as to 25% or more of the capital or the voting rights by one enterprise, or jointly by several enterprises falling outside this definition or as otherwise set out in the European Commission Recommendation of 3rd April 1996 (96/280/EC).

IP Wales is managed by the Department of Law at the University of Swansea. This Report represents a major research investigation into an area of critical importance to the SME membership of IP Wales.

IP Wales is part financed by the European Union under the European Regional Development Fund (Project Reference 53611). IP Wales is additionally financed in part by the Welsh Development Agency, thereby facilitating its operation on a pan Wales basis.

Andrew Beale
Director, IP Wales
FOREWORD

This is the fourth research paper as part of the IP Wales Research Programme.

This study examines the financing of especially technology-driven SMEs in Wales and the role of intellectual assets as collateral for the purpose of raising finance. From a survey undertaken of Welsh SMEs, including their professional advisers, it appears that there are significant difficulties in such SMEs maximising the use of their IP as security. This may reflect inherent problems arising out of the nature of IP assets themselves and the dilemma of valuation is specifically considered in this Report. The reform of English and Welsh personal property security law is currently being considered by the Law Commission and in this Report specific recommendations are made in respect of law reform in this important area. At the same time, policy implications are identified for the Welsh Assembly Government so as to facilitate the commercialisation by Welsh technology-based SMEs of their IP assets.

I am grateful for the contributions made by colleagues in the preparation of this Report. Whilst the views expressed in this Research Paper and any error therein are solely my responsibility, I appreciate the assistance provided by Kerry Beynon, research officer IP Wales in the preparation of the survey and the collation of the survey results. Further contributions were made by Andrew Beale, Director IP Wales, David Blackaby, Marc Clement and Lynn Mainwaring, all of Swansea University.

Iwan Davies
Research Director
# Financing of Welsh SMEs and the Commodification of IP Rights

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INTRODUCTION

The twentieth century witnessed the metamorphosis of British industry and the British labour market. In particular, the past three decades have seen a decline in traditional heavy industry whilst the value of intangible assets relative to the value of physical and financial assets have significantly increased. This development reflects the emergence of a knowledge-based economy in the United Kingdom where considerable emphasis is placed upon the creation and safeguarding of intellectual property rights in copyright, patents, trade marks, design rights, sui generis rights, as well as “intangible rights” such as goodwill and confidentiality. Intellectual Property (IP) is “property” in the sense that it can be bought, sold, licensed or traded in the same way as any other form of property. As such, IP rights represent important assets for companies and often comprise the foundation for market dominance, as well as continuing profitability for leading companies.

The commercial exploitation of IP rights is essential to the development of many enterprises. Indeed, this is acknowledged in the economic development strategy of the Welsh Assembly Government, as set out in its Report, A Winning Wales. An important aspect of this strategy is to transform the economy of Wales which has traditionally relied upon heavy industry, especially extraction-based industries, into a “knowledge economy”. The pivotal role of technologically focused small and medium sized enterprises (SMEs) is championed in this Report and the incidence of IP activity is perceived to be the barometer in measuring the development of a knowledge-driven economy.

There exists a tension in the present legal position between, on the one hand, an intellectual property legal regime where the focus is to reward endeavour by protecting through monopolistic rights, the originator of the IP and, on the other hand, a credit finance law which is concerned to provide a framework for conducting transactions that establishes an effective security regime for creditors, with clear priority and enforcement rules following default. In particular, this phenomenon can be illustrated in the context of the financing of technology-based small firms. This is especially significant to IP Wales which aims to assist SMEs in Wales to grow their businesses through the commercial exploitation of IP rights. The availability of finance is crucial to this process.

1 In England and Wales, the principal statutes are the Patents Act 1977, Trade Marks Act 1994, Registered Designs Act 1949, the Copyright Designs and Patents Act 1988. Compare rights such as passing off or breach of confidential information which are essentially procedural in nature and are, as such, “weaker rights” than the IP rights which arise under the intellectual property statutes.

2 These include designs, database rights, plant breeder’s rights, and rights in digital circuit layouts.

3 http://www.wales.gov.uk/themesbudgetandstrategic/content/neds/index.

4 The Welsh economy has a heavy reliance on SMEs. These are defined as including firms with less than 250 employees or having a turnover of less than 40 million euros and having no more than 25% ownership by non-SMEs. Within Wales in 2002, SMEs accounted for 71,740 of the total of 71,870 registered enterprises for value added tax purposes.

5 See below.

6 To this end, the IP Wales business support initiative seeks to help SMEs in Wales to grow their businesses through the commercial exploitation of patents, trade marks, industrial designs, copyright, database rights, know-how and licensing (in & out) agreements. In the first phase of its operation from 2002 to 2004, IP Wales has set itself the targets of assisting 850 firms and advising 425 of these with a view to giving selected financial support, in the form of 50% reimbursement grants, towards the legal costs of protecting and commercially exploiting their IP assets. At the conclusion of this phase it is envisaged that 276 new jobs will have been created in Wales (110 in high tech industries) and 830 safeguarded as a result of IP Wales activities. In addition, 100 new patent applications will have been filed and 66 new trade mark applications filed. By July 2004, over 1250 businesses have registered their entitlement to unlimited assistance via the www.ipwales.com website providing access to the IP Wales monthly newsletter, access to training materials/demonstrations and access to IP
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The proper goals for an effective credit and security regime in IP will be elaborated in this Report and the business financing context of, especially, technology-based firms will be specifically discussed. Historically, IP has rarely been used as security for debt financing and where it has been used, this has been in addition to security taken over intangible assets almost as a catch-all security provision with little acknowledgement being given to the value of the IP. Financing is traditionally provided by way of a combination of fixed charges over a business’ tangible assets and a floating charge over all of the business’ assets. Evaluation of IP as specific collateral has not generally occurred. If companies with high ratios of intangible assets cannot raise finance by using their IP, they will be disadvantaged in terms of their ability to invest. The significance or otherwise of the availability of IP as collateral will be considered in this Research Report in the context of the lending criteria adopted by financiers.

The experience of SMEs and professionals with regard to the use of IP as security for raising finance in Wales is set out in this Research Report. From a Survey undertaken of Welsh SMEs, including their professional advisers, it appears that there are difficulties in maximising the use of IP as security. This may reflect inherent difficulties which arise out of the nature of IP assets themselves. This phenomenon will be examined as it goes to the issue of the adequacy of property theory as the basis of secured financing law in intellectual property assets. In turn, this has implications for the reform of English and Welsh personal property security law and the development of bright line priority rules associated with Article 9 of the Uniform Commercial Code, which is at the heart of the recommendations made in the Law Commission Consultation Paper No 164, Registration of Security Interests: Company Charges and Property other than Land (2002) and the more recent Consultation Paper No 176, Company Security Interests (2004).

Wales Research Reports/Seminars. 700 of these firms consider themselves to be R&D active and to date over 300 firms have been advised via the on-line IP Audit Report with follow-up contact and guidance from a field operative. Over 80 applications have been made by these firms for financial assistance, approximately 30 of which have already been supported, leading to 47 new patent applications and 12 new trade mark applications.

9 A distinction should be drawn between intangible assets and intangible value. This goes to the nature of the analytical method of valuation of IP assets. See below.
10 See below.
1. THE FINANCING OF TECHNOLOGY-BASED SMALL AND MEDIUM SIZED ENTERPRISES

THE ROLE AND SOURCE OF FINANCE

The availability of finance is vital in the exploitation of IP rights for technology-based SMEs, that is, the conversion of these rights by way of commercial exploitation into goods and services. In 2001 the Bank of England published its Report, Financing of Technology-Based Small Firms which identified the key characteristics of such firms to be as follows: First, their value is linked to longer-term growth potential derived from scientific knowledge and IP; second, the lack of tangible assets which may be used as collateral; third, their products have little track record and may be subject to high rates of obsolescence. In view of these characteristics, the risks of traditional finance is both high and problematical but paradoxically and at the same time the capacity for such small businesses to fulfil their potential depends on the availability of finance.

At the outset, in the development of a business, financing may be provided internally by the entrepreneur himself and other immediate backers. By definition, there will be a limit to the financial leverage of such an individual which will be linked to her personal wealth and the value of her available assets, including perhaps her home. Another form of internal financing is the granting of equity by way of a share issue which has the effect of splintering the ownership of the company. The issue here relates to a judgement by the investors as to the future prospects of the company and this will be linked to a view of the turnover and forecast turnover of the company. In the case of SMEs, the number of such owners will be small, not least because the value of the company and the shares that can be issued are necessarily limited. If a finance gap is to be avoided, external finance will eventually be necessary and this has been recognised by Government with policies including investment subsidies, “public” venture capital, fiscal incentives promoting R&D investment, legal regimes designed to encourage innovation, of which IP rights are the most important.

1 See generally Cosh and Hughes (Eds) Enterprise Britain: Growth, Innovation and Public Policy in the Small and Medium Enterprise Sector (Cambridge: ESRC Centre for Business Research 1998); Whincop (Ed) Bridging the Entrepreneurial Financing Gap (2001).
2 Firms will usually use internal sources of finance before seeking external funding. See Cosh and Hughes, “Size, Financial Structure and Profitability: UK Companies in the 1980s” in Hughes and Storey (Eds) Finance and the Small Firm (1994). This is sometimes referred to as the “pecking order” hypothesis.
4 There are many examples, including the Small Firms Merit Award for Research and Technology; The Enterprise Fund; The Enterprise Management Incentives; University Challenge.
5 Government and European initiatives abound to promote venture capital style investments, for example, Venture Capital Trusts. There are also fiscal incentives to encourage corporate venturing. For example, the Corporate Venturing Scheme allows investor companies to obtain corporation tax relief; defer tax on any gains made on corporate shareholding under the scheme; claim tax relief against income for capital losses (net of corporation tax relief) on disposal of shares. For a discussion see Bank of England Report op cit fn 3 at paras 4.50-4.64.
6 Tax credits are available for investments in R&D and these were introduced for SMEs in Schedule 20 to the Finance Act 2000. Similar relief was extended under Schedule 12 of the Finance Act 2002 to larger companies. The relief enables a business to write off immediately the whole of its capital spending on R&D against its trading profits.
7 See, for example, the recent Patents Act 2004 which in amending the 1977 Patents Act seeks to improve the patent legal framework, especially in respect of the enforcement of patent rights.
The role of equity finance in the development of technology-based small firms is potentially significant. At the outset, a general distinction should be drawn between private and public equity finance: Formal private equity is available from banks, special investment schemes and venture capital firms, whilst the informal market includes investments through business angels, that is, high net worth individuals willing to risk capital in smaller unquoted companies. A characteristic of venture capital or private equity finance is the fact that the venture capitalist will become an equity partner and will look to the longer term success of the business for a return on capital. The proportion of external finance for SMEs accounted for by private equity is nonetheless small. This reflects the fact that external equity is often perceived to be costly whilst for private equity, firms demand relatively high returns to offset the high level of risk involved – often including a 30-40% equity stake and a seat on the board, as well as a management role.

Formal private equity in start-up and early stage companies can be regarded as a proxy of the finance available for small firms and, as we have seen, this is small. It may be that informal venture capital through business angels can fill an equity gap, as they can provide, in return for an equity stake, both capital and also management expertise. Potentially, this source of funding is very significant for small technological-based SMEs and a survey conducted in 2002 of business angels activity showed that three-quarters of business angels made investments averaging less than £50k and 40% averaged less than £20k per investment. Their ability to do this reflects a lower cost base and perhaps different aspirations. The problem here is that most business angels wish to remain anonymous so it is difficult to measure the impact of this source of finance, although surveys have consistently shown that in terms of investments made in start-up and early-stage finance, the informal market is on a par with the formal market in the provision of such funds.

The promotion of informal venture capital activity is hampered by lack of information of investment opportunities. In this regard, it is estimated that over half of informal venture

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9 The investment typically lasts for between 3 and 7 years and the equity partner will bring, in addition to finance, expertise and experience.
10 From 1991-2000 only 3% of external finance for SMEs was accounted for by private equity. See Bank of England Report op cit fn 3 at para 4.4. The amounts available fluctuate greatly. Thus, in 2001, £500m was made available by venture capitalists for SMEs. In 2002, this plummeted to £40m. See Bank of England Report, Finance for Small Firms, Tenth Report (2003) at para 8.3. It appears that in 2002, venture capitalist funds had to concentrate on supporting existing investees through further rounds of funding.
12 The conventional definition is that they are high net worth, non-institutional private equity investors, that is, they have the desire and have sufficient net worth to enable them to invest part of their wealth into risk-high return entrepreneurial ventures in return for a share of voting control, income and ultimately capital gain.
13 Angels vary in the way they have an involvement in the investment. Active angels closely monitor the firm they invest in while passive angels provide money but rarely monitor the firm closely. They are usually part of an informal network led by active angels who perform the due diligence, syndicate the deal and manage the investments. See Acs and Prowse, “Angel Investors and the Angel Capital Electronic Network” Chapter 3 in Whincop (Ed) Bridging the Entrepreneurial Finacing Gap (2001).
15 It is estimated that the UK has nearly 18,000 actual and potential business angels investing annually approximately £500m. See Mason and Harrison, “Public Policy in the Development of the Informal Venture Capital Market” in Cowling (Ed) Industrial Policy in Europe (1999). See also Sources of Business Angel Capital 1999/2000, Survey of the British Venture Capital Association (2000).
capital investments arise from recommendations from family and friends indicating perhaps lack of information on other opportunities.\textsuperscript{16}

Growing numbers of business angels networks are developing\textsuperscript{17} and there is also some evidence of business angels and venture capitalists working together, including co-investing and sequential investing.\textsuperscript{16} In this respect, a careful distinction should be drawn with corporate venturing, as this is a relationship between a larger and an independent smaller company “in which both contribute financial, management or technical resources, sharing risks and rewards equally for mutual growth”.\textsuperscript{19} The larger company may take a direct equity stake in the smaller company and in return has access to new ideas and skills and also potential attractive returns on new technologies.\textsuperscript{20} A large corporate investor may be in a better position to assess the viability of an investment than perhaps a venture capitalist because it will be operating in the same market as the investee company which can then in some way mitigate the information asymmetries that can undermine the provision of finance to small companies.

Turning to the issue of public equity, the substantial fixed costs associated with flotation makes this an uneconomic option for SMEs, other than those with strong growth potential.\textsuperscript{21} At the same time, as we have discussed, only comparatively modest sums are allocated by private equity by way of early stage finance. In large measure this reflects the complexities of due diligence for technology projects\textsuperscript{22} and this expresses itself in high information and transaction costs. Essentially, the problems associated with information relate to the capital markets will provide financing for smaller quoted companies. Second tier markets have also emerged which provide smaller companies with access to public equity at an earlier stage than would otherwise be the case. Essentially, the UK has a three-tier capital market structure – an Official List, the Alternative Investment Market with less onerous admission and trading requirements and also an off-market trading facility, OFEX. AIM is a “screen-based market”. It was launched in 1995 to assist UK SMEs to accrue finance at a reduced cost to that incurred in listing on the main market. The London Stock Exchange does not carry out a vetting role in relation to the companies which list, but instead has “nominated advisers”. The requirements for listing on the AIM involve appointing a nominated adviser and nominated broker (which may be the same firm); unrestricted transferability of shares; registration as a proprietary limited company; payment of an annual fee; preparation of an admission document which includes financial information and projections and details of all directors. The AIM website is found at http://www.londonstockexchange.com/aim. One criticism of AIM is the cost incurred by companies seeking to list in relation to advisers’ fees which have reported to consume up to 10% of the capital raised. See Wilson, “The Role of the Enterprise Market in SME Finance in Australia” in Bridging the Entrepreneurial Financing Gap (Ed) Whincop (2001) Chapter 8.

\textsuperscript{16} The difficulties here relate to the regulation of financial advice under the Financial Services Act 1986 which requires angel investors to be certified by an authorised person as “sophisticated investors” in order to receive news of investment opportunities without the provider of news having to go through complex procedures under the Act to safeguard the general public from improper financial promotions. Very few such certificates have in fact been issued, presumably because authorised persons are concerned about litigation and also the difficulty of getting professional indemnity insurance.

\textsuperscript{17} There is only one network of Business Angels in Wales and this is xenos. See www.xenos.co.uk. For other networks operating in the UK, see www.busangels.co.uk.

\textsuperscript{18} In their survey of angel activity, C2 Ventures, op cit fn 14, showed that approximately 55% of business angels expressed a preference for risk-sharing when making investments but only around 25% had actually done so. There are some successful angel syndicates, notably, Archangel and the Great Eastern Investment Forum.


\textsuperscript{20} The investee company obtains new risk capital and benefits from new technical and management expertise, as well as being able to take advantage of established marketing and distributions channels.

\textsuperscript{21} Capital markets will provide financing for smaller quoted companies. Second tier markets have also emerged which provide smaller companies with access to public equity at an earlier stage than would otherwise be the case. Essentially, the UK has a three-tier capital market structure – an Official List, the Alternative Investment Market with less onerous admission and trading requirements and also an off-market trading facility, OFEX. AIM is a “screen-based market”. It was launched in 1995 to assist UK SMEs to accrue finance at a reduced cost to that incurred in listing on the main market. The London Stock Exchange does not carry out a vetting role in relation to the companies which list, but instead has “nominated advisers”. The requirements for listing on the AIM involve appointing a nominated adviser and nominated broker (which may be the same firm); unrestricted transferability of shares; registration as a proprietary limited company; payment of an annual fee; preparation of an admission document which includes financial information and projections and details of all directors. The AIM website is found at http://www.londonstockexchange.com/aim. One criticism of AIM is the cost incurred by companies seeking to list in relation to advisers’ fees which have reported to consume up to 10% of the capital raised. See Wilson, “The Role of the Enterprise Market in SME Finance in Australia” in Bridging the Entrepreneurial Financing Gap (Ed) Whincop (2001) Chapter 8.

\textsuperscript{22} The complexities of due diligence for high technology projects requires an experienced venture capital team, but investors find it difficult to identify such teams.
asymmetries of information which preclude investors from evaluating the quality of the investment proposed. As Whincop has pointed out:\textsuperscript{23}

“[T]he parties are not omniscient with respect to their own payoffs and those of the other party. This is an acute problem in small firms because they face high and imprecise risks. Even a firm that gets the finance it needs, when it is needed, faces unknowns – future demand, competition, the entrepreneur’s adaptability, and so on. These unknowns are reflected in the most stylised fact of small business research – the high percentage of business failure.”

Transaction costs relate to expenditure on due diligence, including legal documentation and their costs will vary according to the nature of the financier. In this respect, the identity of the financier will change as the amount financed rises and this is often linked to the stage of the development of the business.

**THE BUSINESS LIFE CYCLE**

The commonly accepted stages range from conception to development through to growth and maturity.\textsuperscript{24} The financing needs may be different at each stage, reflecting perhaps the time of development of the IP and its subsequent exploitation in the market place. For perfectly proper commercial reasons businesses may choose not to go on to exploit their IP and may instead, upon completion of development, sell it or licence it\textsuperscript{25} to third parties who will then go on to exploit it. Clearly, the financing needs of originators of IP in this context will be different.

**Early stages of business development**

Firms use internal sources of finance before seeking external funding\textsuperscript{26} and this is especially the case during the conception stage of a business. What is required is cash flow and the originator typically will revert to her own funds enhanced by contributions from friends and family. The transactional costs may not be significant because family and friends may demand little contractual protection and may not require any due diligence investigation. At this stage, debt financing is not an option, not least because of the inability to service in cash terms the debt. Once the informal sources of finance are exhausted, this presents a dilemma for the entrepreneur and this is often linked with the next stage in the development of a firm.

**Business development**

The nature of IP is such that it is during the development stage that the demands are capital intensive, calling upon the need for investment. A significant problem is the lack of cash revenues which makes the servicing of debt difficult, if not impossible for SMEs. The nature of external financing will therefore be private equity as this will deal with the high risk nature of the investment and also the fact that the timetable of profitability may be lengthy. The involvement of formal or informal venture capitalists at this time may introduce management and financial disciplines to an SME which may be of some value to the originator. Furthermore, the sharing of risk in the development of the product may be perceived by the originator as outweighing the disadvantage of the dilution of its ownership. Even so, capital raising of this nature imposes substantial fixed costs arising from due diligence investigations and angel finance, for example, is renowned for high information costs arising out of the fact that the private equity securities market is not subject to the rigorous disclosure requirements seen in public equities.

**Early growth**

Following the completion of development of the IP, a revenue stream will be generated. At this time, the demands for financing will include the need to fund market penetration and also the need for working capital. Since the original investors will have absorbed the development risk and will have produced a product with a proven market potential, additional equity funding

\textsuperscript{23} Op cit fn 21 at pp2-3.
\textsuperscript{24} For a general discussion see Bezant, “The Use of IP as Security for Debt Finance” (1998) 1 Journal of Knowledge Management 237.
\textsuperscript{25} See below.
\textsuperscript{26} This is the so-called “pecking order” hypothesis. See Cosh and Hughes op cit fn 2.
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may therefore be restricted and debt financing will be needed to continue investment in research and development. However, the SME may still have a limited ability to service the debt and what is being sought is low cost financing over a longer time to reflect the timescale necessary for the IP to reach its potential. The availability of debt financing at this stage may be crucial to the survival of the enterprise.

**Maturity**

At this stage in the development of the company, market penetration will have been achieved and cash is generated from an IP-based business. In terms of raising finance, the narrow issue relates to the capacity of the business to service debt based on future cash flow projections. The basis of funding will therefore be linked to the revenue-generating capacity of the IP asset. At this stage, where a business may have a portfolio of IP assets, the prospect of securitisation may be attractive, for example, capitalising future cash flow streams from IP.

The role of SMEs has assumed significance in the growth and development of the UK economy as a whole. The availability of credit is important and this is often described in terms of being the lifeblood of industry. However, from the above discussion it emerges that a significant finance gap can arise, especially at the early growth stage of an SME. In the absence of further equity finance, the narrow issue revolves around the extent to which this gap can be bridged by debt finance which of course is predicated upon the ability of the SME to borrow money. In this respect, it is often the case that technologically-based small firms have few tangible assets to offer as security although at the same time they may have originated significant actual or potential IP. This invites scrutiny of the role and function of IP as financial assets capable of raising secured finance with an extractable value.

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27 The conventional definition of SMEs relates to enterprises with less than 250 employees. The extent of their contribution to the economy can be seen in Table 4 of The Small Business Service of the Office of National Statistics Report for 2002.

**TABLE 4 UK Sections**

Number of enterprises, employment and turnover in the private sector, public corporations and nationalised bodies, by number of employees and industry section, UK, start 2002.

<table>
<thead>
<tr>
<th>All Industries</th>
<th>Enterprises</th>
<th>Employment (000s)</th>
<th>Turnover (£ million)</th>
<th>Percent Enterprises</th>
<th>Employment</th>
<th>Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>All enterprises</td>
<td>3,797,725</td>
<td>22,674</td>
<td>2,199,923</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>With no employees¹</td>
<td>2,630,195</td>
<td>2,937</td>
<td>154,922</td>
<td>69.3</td>
<td>13.0</td>
<td>7.0</td>
</tr>
<tr>
<td>All employers</td>
<td>1,167,530</td>
<td>19,737</td>
<td>2,045,001</td>
<td>30.7</td>
<td>87.0</td>
<td>93.0</td>
</tr>
<tr>
<td>1-4</td>
<td>760,525</td>
<td>2,264</td>
<td>196,681</td>
<td>20.0</td>
<td>10.0</td>
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<td>5-9</td>
<td>206,135</td>
<td>1,473</td>
<td>131,381</td>
<td>5.4</td>
<td>6.5</td>
<td>6.0</td>
</tr>
<tr>
<td>10-19</td>
<td>113,580</td>
<td>1,585</td>
<td>159,124</td>
<td>3.0</td>
<td>7.0</td>
<td>7.2</td>
</tr>
<tr>
<td>20-49</td>
<td>53,440</td>
<td>1,652</td>
<td>171,364</td>
<td>1.4</td>
<td>7.3</td>
<td>7.8</td>
</tr>
<tr>
<td>50-99</td>
<td>18,020</td>
<td>1,254</td>
<td>147,014</td>
<td>0.5</td>
<td>5.5</td>
<td>6.7</td>
</tr>
<tr>
<td>100-199</td>
<td>7,605</td>
<td>1,071</td>
<td>137,340</td>
<td>0.2</td>
<td>4.7</td>
<td>6.2</td>
</tr>
<tr>
<td>200-249</td>
<td>1,635</td>
<td>364</td>
<td>45,181</td>
<td>0.0</td>
<td>1.6</td>
<td>2.1</td>
</tr>
<tr>
<td>250-499</td>
<td>3,175</td>
<td>1,105</td>
<td>163,919</td>
<td>0.1</td>
<td>4.9</td>
<td>7.5</td>
</tr>
<tr>
<td>500 or more</td>
<td>3,415</td>
<td>8,971</td>
<td>892,097</td>
<td>0.1</td>
<td>39.6</td>
<td>40.6</td>
</tr>
</tbody>
</table>

¹ “With no employees” comprises sole proprietors, partnerships comprising only the self-employed owner-manager(s), and companies comprising only an employee director.

28 See, for example, Drobnig, “Secured Credit in International Insolvency Proceedings” (1998)

33 Texas International Law Journal 47.

29 See Bezant, op cit fn 24.
DEBT FINANCING AND THE LENDING DECISION

Debt finance is not equity capital. Whilst asset realisation through repossession is the nature of such financing, this is the default scenario. In practice, the credit stream will be based on the cash flow projections for the business and the ability of the SME from these to service the debt. The availability of such finance for SMEs has been the subject of Government initiatives and the determining factors in lending decisions have been the object of Bank of England consideration. It would appear that the major factors involved in the lending decision revolve around the business plan and the projections set out. At the same time, an assessment of the management team in terms of risk profile, including credit history, evidence of repayment capacity is made and in the case of start ups, the applicant’s willingness to invest in the business, is considered by financiers to be essential.

There is evidence that significant levels of lending is available to SMEs on unsecured terms. The major explanation for this is that, in small loans, the transaction costs involved are high, relative to the value of the loan, whilst the availability of credit is such, particularly credit card lending, that the taking of a security interest will not, in any event, inhibit the borrower’s ability to make investments.

30 See below.
31 See Bezant, op cit fn 24.
32 A number of Government Initiatives have provided for financing of SMEs, including business expansion schemes, Finance Wales financing of SMEs, including the Small Firms Loan Guarantee and Enterprise Capital Funds. In the case of the devolved region of the UK, further support is available.

Scotland: The major scheme is the Business Growth Fund, operated by the Scottish Enterprise Network and Highlands and Islands Enterprise. This is accessed through the 22 Local Enterprise Companies (LECs) in Scotland and provides loans of between £20,000 and £100,000 for businesses that can demonstrate commercial viability and growth potential, but who have a gap in their required funding. On a local level, the 22 LECs may administer their own schemes to encourage business start ups and growth.

Wales: The Welsh Development Agency provides loan funds predominantly through the Wales Small Loan Fund. WSLF provides ‘gap’ funding to indigenous Welsh SMEs who have the ability and potential to expand but lack the necessary investment. The maximum loan value is £50,000. The fund operates in partnership with Barclays Bank plc and if the loan is approved by the WSLF, Barclays are given the opportunity to review the application and to decide whether to lend up to 50% of the agreed amount. The relationship remains with the WSLF at all times, but the partnership allows the WSLF to increase the number of loans it can make.

Northern Ireland: The Local Enterprise Development Unit (LEDU) and the International Fund for Ireland (IFI) provide financial support to independent Local Enterprise Agencies (LEAs) throughout Northern Ireland. The loans provided by the LEAs are either known as Seedcorn loans or Enterprise Loan Funds and help exploit new opportunities for growth by making finance available for new start businesses which otherwise may be unable to access funds.

33 As the Bank of England Report ibid at para 2.26 notes: “The ability of the customer to invest personal capital in the business was rated as very important or essential for start-up applications … Many said that a personal stake reassured them that the customer had a clear interest in the business survival.”
34 In the USA, 40% of debt issued to small businesses is unsecured. See, for example, Booth, “Contract Costs, Bank Loans and the Cross-Monitoring Hypothesis” (1992) 31 J Fin Econ 25. The issue of unsecured lending within the UK has been a matter of some comment following the Bank of England released data for June 2004 which showed the following breakdown of household debt: £827bn on mortgages; £55bn on credit cards; £122bn on unsecured debts. For a general discussion on unsecured debt within the UK see Tudela and Young “The distribution of unsecured debt in the United Kingdom: survey evidence” Bank of England Quarterly Bulletin, Winter 2003.
35 In the Bank of England Survey op cit fn 33 at para 2.28 the availability of security was considered to be an important factor in lending to established businesses than start-up because it was stated the former tend to borrow larger amounts and that security was usually required against larger loans of £25k or more.
to obtain additional funds. In addition, technological advances have provided mechanisms which enhance the information available to financiers in making lending decisions which in turn have lowered the general riskiness of loans. In fact, the development of credit and behaviour scoring systems have reduced the banks' reliance on collateral. Scoring systems are predicated upon matching historic default profiles against characteristics of borrowers and these are essentially powerful predictors of whether borrowers will pay. These scorecards are individual bank specific and capture a wide variety of data, including credit reference agency data and industry sector financial performance benchmarks.

Scorecards are used for credit applications up to £100k. At the bottom end for small loans, the score is the primary decision maker but at the upper end it provides an aid to the lending decision. The use of scorecards and the confidence in the system is such that some banks are more willing to make smaller loans on an unsecured basis and there is evidence that lending up to £35k is likely to be unsecured. Credit scoring actually enhances the attractiveness of unsecured lending because it provides an absolute reduction in the riskiness of small business lending, that is, the credit underwriting process is more sophisticated and less costly to administer than a non-automated system which requires investigations of assertions made and considerable experience is necessary for lending officers in making such decisions. The characteristic of credit scoring is that it strips down the information needed and scores the loan based on prediction criteria, that is, it relies on a database of previous loan transactions in order to correlate the likelihood of payment based upon the objective information available. The scoring system is designed to operate with a small number of facts. As a result of this approach, the loan portfolio of the bank is safer and this therefore lowers the potential benefit provided by secured loans. Indeed, if security is

37 In the USA, for example, credit cards provide the primary source of working capital for 5% of small businesses. See Oppenheim, “Bank Financing Up, Loans from Relatives Down” [1997] American Banker 5. By using credit cards it is possible for a business to avoid the need to grant security to secure business debt. The total extent of borrowing by credit cards is very significant in the UK, as set out in Table 6.11 of the Credit Card Research Group Report for 2002:

### Debit or credit card spending: by type of purchase, 2002

<table>
<thead>
<tr>
<th>United Kingdom</th>
<th>Debit Cards</th>
<th>Credit Cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food &amp; drink</td>
<td>30.93</td>
<td>11.94</td>
</tr>
<tr>
<td>Motoring</td>
<td>13.92</td>
<td>11.51</td>
</tr>
<tr>
<td>Household</td>
<td>9.61</td>
<td>12.95</td>
</tr>
<tr>
<td>Clothing</td>
<td>7.07</td>
<td>5.42</td>
</tr>
<tr>
<td>Mixed business</td>
<td>6.52</td>
<td>7.04</td>
</tr>
<tr>
<td>Travel</td>
<td>5.99</td>
<td>11.70</td>
</tr>
<tr>
<td>Entertainment</td>
<td>5.07</td>
<td>6.23</td>
</tr>
<tr>
<td>Financial</td>
<td>1.32</td>
<td>0.60</td>
</tr>
<tr>
<td>Hotels</td>
<td>1.16</td>
<td>4.23</td>
</tr>
<tr>
<td>Other services</td>
<td>12.84</td>
<td>13.27</td>
</tr>
<tr>
<td>Other retail</td>
<td>12.59</td>
<td>16.89</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>107.00</strong></td>
<td><strong>101.77</strong></td>
</tr>
</tbody>
</table>

1 Visa and Switch cards only
2 MasterCard and Visa cards only

Source: Credit Card Research Group

In 2003 the total amount of credit card spending was £113bn

39 Ibid.
introduced into the loan equation, this is problematical as it assumes that it is possible to evaluate accurately the security in order to determine the benefit that the giving of security brings to the transaction.\(^{41}\) Essentially, scoring cards are, as a matter of both form and function, blunt instruments since they cannot take into account non-standard information, including, for example, the nature and value of IP.\(^{42}\)

A further mechanism used by financiers in making on-going financial decisions is the use of commercial intelligence based on objective information which can, in effect, act as an early warning system. It is very costly to monitor the actual current financial and legal position of small businesses, although information is available from commercial databases\(^{43}\) about the industry sector in question, including county court judgments linked to a particular sector, as well as behavioural analysis algorithms which are designed to identify patterns of unusual behaviour before an objective event of distress.\(^{44}\)

It is elementary learning that in the case of limited liability companies, creditors will have no recourse against the owner-manager.\(^{45}\) In many instances, however, the financier will have obtained a personal guarantee, often secured by all the personal property of the owner-manager. The guarantee is a device in this situation to ensure that the owner-manager, at least from the perspective of the financier, is not doing business in limited liability form. Significantly, the issue of the provision of a guarantee is often not linked to the personal wealth of the guarantor and this is especially the case if there are few assets, as the financier may in fact receive nothing following the bankruptcy of the owner-lender.\(^{46}\) The point here is

\(^{41}\) This is especially problematical in the case of IP.
\(^{42}\) The British Bankers’ Association Code of Practice (2002) requires banks to explain why they have rejected a borrowing application, if asked by the customer. Even so, there is a widespread lack of understanding about how banks use scoring systems which in itself could provide a source of tension between banks and their small business customers. See Bank of England Report op cit fn 38 at para 4.28.
\(^{43}\) For example, Equifax, Dunn and Bradstreet, CNN Systems.
\(^{44}\) See Mann, “The Role of Secured Credit in Small-Business Lending” (1997) 86 Georgia LJ 1 at p35.
\(^{45}\) From April 6 2001, this principle has been extended so that two or more persons wishing to carry on business can now, by virtue of the Limited Liability Partnership Act 2000, enter into a limited liability partnership.
\(^{46}\) The “pari passu” scheme of distribution anticipated in s107 of the Insolvency Act 1986 is subject to the priority provisions in s175(2) of the Insolvency Act 1986, notably the expenses of the insolvency procedure, security interests and preferential debts. As Mokal observed in “Priority as Pathology” (2001) 60 Cambridge LJ 581 at pp588-589:

“[i]n an overwhelming majority of formal insolvency proceedings, nothing is distributed to general unsecured creditors (the only category of claimant truly subject to the pari passu rule). It is estimated that there are zero returns to them in 88 per cent of administrative receiverships, 75 per cent of creditors’ voluntary liquidations and 78 per cent of compulsory liquidations. On average they receive 7 per cent of what they are owed”.

For a discussion on the priority order see now Re Leyland Daf Ltd (also known as Bucklor v Talbot) [2004] UKHL 9. In paragraph 88 of the judgment in Leyland Daf, Lord Millett set out the “correct order of priorities”. He stated that the two classes of assets had two sets of priorities. Assets subject to a floating charge were distributed as follows: (1) Expenses of realising the assets; (2) Receiver’s expenses; (3) Preferential debts in receivership (s40(2) Insolvency Act 1986); (4) Floating charge holders; (5) the company. The “free assets” were distributed as follows: (1) Expenses of realising the assets; (2) Liquidator’s expenses; (3) Preferential debts; (4) Floating charge holder to the extent that the preferential debts have been paid out of assets subject to the floating charge (s40(3) Insolvency Act 1986); (5) Unsecured creditors. The Enterprise Act 2002 inserted a “ring-fencing” provision under s176A Insolvency Act 1986 which requires a certain prescribed amount of assets to be set aside for the benefit of unsecured creditors. The prescribed part is as follows: (a) where the company’s net property (assets subject to floating charges created after 15 September 2003) does not exceed £10,000 in value, the sum of (i) 50 per cent of the first £10,000 in value; and (ii) 20 per cent of that part of the company’s net property which exceeds £10,000 in value. This is subject to a maximum of £600,000. The ring-fencing takes place from the assets available for
that the guarantee is a hostage taking device and is analogous to a “puny prince”. As Baird has pointed out, the assets which may form part of the guarantee may have little value to the “hostage-taker” but their real significance is that they may be of great value to the owner-manager which gives the surety the ability to exercise leverage on the guarantor during time of financial distress. The guarantee therefore reduces the risk of debtor misbehaviour.

As well as guaranteeing the company debt, the managers will have a substantial equity stake in the business and may be owed significant sums by the company. This emerges from the influential survey conducted by Franks and Sussman in respect of SMEs in financial distress. At the same time, in the Survey of Business Recovery in the UK (2001), no share capital was held by institutional investors in 93% of the insolvency cases and in only 2% of such proceedings had the insolvent firm benefited from a rights issue or other equity investment in the 12 months leading up to insolvency proceedings. The substantial equity payment of floating charge holders, whose charges were created after 15 September 2003. The priority order following 15 September 2003 therefore is as follows: (1) Expenses incurred in realising fixed charge assets; (2) Fixed charge holders; (3) Liquidation expenses; (4) Preferential creditors; (5) Pre-15 September 2003 created floating charge holder; (6) Ring-fencing; (7) Post-15 September 2003 created floating charge holder; (8) Unsecured creditors. The provisions of the Enterprise Act 2002 thus necessitate the creation of not two, but three classes of funds: (A) assets subject to “old” floating charges; (B) assets subject to “new” floating charges; and (O) “free assets”.

The following table helps illustrate the order for distribution from these three funds.

<table>
<thead>
<tr>
<th>Class A funds</th>
<th>Class B funds</th>
<th>Class C funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Liquidator’s expenses in realising the assets.</td>
<td>1. Liquidator’s expenses in realising the assets.</td>
<td>1. Liquidation expenses.</td>
</tr>
<tr>
<td>2. Preferential creditors to the extent their claims are unsatisfied by Class C.</td>
<td>2. Ring-fencing.</td>
<td>2. Preferential creditors.</td>
</tr>
<tr>
<td>3. “Old” floating chargee.</td>
<td>3. Preferential creditors to the extent their claims are unsatisfied by Class C.</td>
<td>3. Unsecured creditors.</td>
</tr>
<tr>
<td>4. “New” floating chargee.</td>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

Any surplus goes towards Class C funds. Any surplus goes towards Class C funds.

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47 See Scott, “Rethinking the Regulation of Coercive Creditor Remedies” (1989) 89 Col LR 730 at pp746-748.
49 Policy issues arise here in respect of non-consensual creditors (for example, tort victims) who do not have the opportunity of taking guarantees. Compare Finch “Security, Insolvency and Risk: Who Pays the Price?” (1999) 62 MLR 633. Furthermore, if the owner-manager is incentivised to pay off the creditor with a personal guarantee, the issue of voidable preference will arise in an insolvency context.
50 See Franks and Sussman, The Cycle of Corporate Distress, Rescue and Dissolution: A Study of Small and Medium Size UK Companies (2002) London Business School IFA Working Paper 306. From this survey it emerges that the financial support of bankers is important in allowing companies that get into financial difficulty to trade out of this. Such companies were placed in “rescue units”. The reasons for sending companies to such a unit included failure to make important payments of interest or frequent breaches of borrowing limit or a request for larger borrowing facilities accompanied by a deterioration in the business environment. The objective was to provide assistance to the borrower. The business support units of three of the large UK clearing banks had on average SMEs where the profile of the average debt owed by the company to its shareholder-directors amounted to 6.1%, 2.5% and 2.4% of the total debt outstanding. Whilst as a percentage share of the total debt this is small, the amounts at stake from the point of view of the owner-manager are considerable, especially when bearing in mind the guarantees and the equity held in the business.
stake of owner-managers is such that they have an incentive to keep a financially distressed company going as distinct from liquidating it. This is significant because it is sometimes argued\(^{52}\) that the existence of debt in a firm's capital structure reduces the exposure of shareholders to liability, that is, shareholders have an incentive to offer security because of the decrease in its interest charges, reducing the risk of the secured creditor on insolvency. In the Franks and Sussman study,\(^{53}\) the typical profile which emerged of an SME in financial difficulty was that there was one main bank lender\(^{54}\) which held a fixed or floating charge or both over all or part of the firm’s assets. As a secured creditor, the bank stands at the head of the queue to recover from the proceeds of the disposal of the secured asset what it is owed upon the insolvency of the debtor.\(^{55}\) It follows that the bank will exercise considerable control rights\(^{56}\) in the event of insolvency and, historically, this was the case given that the bank as holder of a floating charge could appoint an administrative receiver.\(^{57}\) Because of these control rights, Franks and Sussman found that banks employed sophisticated “intensive care” processes for such firms in financial difficulties by being referred to their respective rescue unit.\(^{58}\) A large proportion\(^{59}\) emerged from the rescue unit and either they were turned around or they would repay the outstanding debt by finding, for example, alternative banking sources. Typically, the bank would use its control rights as a secured creditor through leverage by forcing distressed firms to undergo restructuring and sometimes to replace their management.\(^{60}\)

\(^{52}\) Compare the so-called Modigliani and Miller Irrelevance Hypothesis. See Modigliani and Miller, “The Cost of Capital, Corporation Finance and the Theory of Investment” (1958) 48 Am Econ Rev 261 who argued that altering the capital structure of a corporate entity should not change its value. Creditors would adjust the interest rate charged for debt and the amount they would pay for an equity interest in the company to reflect the riskiness of the investment. These adjustments thereby offset any benefit. The literature considering the issue of the efficiency hypothesis for secured credit is voluminous. See below.

\(^{53}\) Op cit fn 50.

\(^{54}\) This is also borne out in the US literature. See Baird, “Security Interests Reconsidered” (1994) 80 Virginia LR 2249 at p2263.

\(^{55}\) The priority order of distribution is set out at fn 46 above.

\(^{56}\) Security gives creditors access to managerial information and a right in certain circumstances to be represented on the board.

\(^{57}\) Prior to the implementation of the Enterprise Act 2002 there was concern by banks that secured lending would be compromised and that therefore financial support provided by banks would dry up. Under the original Enterprise Bill it was anticipated that the new administration process would be court-driven and as a concession, partly because of concern that in an economic downturn courts could become clogged up, there is now provision for a company to be placed in administration through appointment by a floating charge holder. By s248 Enterprise Act 2002, Part II Insolvency Act 1986 is replaced by Schedule B1 of Schedule 16 to the former Act. Section 250 Enterprise Act 2002 inserts Chapter IV after Chapter III of Part III Insolvency Act 1986 whereby, under s72A, the holder of a qualifying floating charge (post-15 September 2003) is prohibited from appointing an administrative receiver of a company. Creditors with floating charges pre-15 September 2003 are able to appoint an administrative receiver for so long as the charge remains operative. It appears therefore that, notwithstanding the stated aim of the White Paper preceding the Act to abolish administrative receivership, the procedure will continue to be an option for some time. See Frisby, “In Search of Rescue Regime: The Enterprise Act 2002” (2004) 67 MLR 246 at p253. In addition, the abolition of administrative receivership is only partial, as seen in ss72B-72G. It should also be noted that s72A does not preclude the appointment of a receiver over fixed charge assets.

\(^{58}\) Op cit fn 50.

\(^{59}\) The Survey ibid identified that approximately 75% emerged from the rescue units and avoided formal insolvency procedures. The remaining 25% entered some form of insolvency, usually administrative receivership. See now fn 57 above.

\(^{60}\) As a result of this tension, Franks and Sussman found that rebanking often occurred. In respect of one of the banks surveyed, when customers entered their rescue unit they frequently terminated their relationship and banked elsewhere. Significantly, the bank charged lower interest to their customers than other banks with lower levels of rebanking.
The ratio of security value and the interest charged was the least significant of all the hypotheses tested in the work conducted by Franks and Sussman, that is, offering security did not lead to a reduction or increase in the interest rates charged. This is not surprising as larger financially strong companies do not have an incentive to offer secured credit because the financial strength of creditworthy companies leave little room for secured credit to enhance the attractiveness of a financing transaction. Whilst in the rescue unit the bank debt was secured, this was not a result of a “bargain” with the bank in return for a lower interest rate: it was a precondition for being able to borrow at all. As the Bank of England has pointed out: “Ready access to finance when needed is often a more compelling consideration for small firms than is actual cost”. At the same time, the Bank of England Report noted that debt financing for small firms depends upon the value of the assets which could be given as security.

It would appear therefore that a determining factor in the decision to lend is the availability of security, especially in the case of new companies with no established track record. Small firms are most likely to fail and produce the least asset recovery value and this is a pattern which can be clearly seen during the last ten year period. Their over-representation in the statistics demonstrates the importance of the availability of security and this is especially the case when companies are facing a “credit crunch” or “liquidity crisis”. As the Bank of England Sixth Report noted: “the availability of collateral does not impact on the birth of new firms, but on [their] survival”. The effective creation of security interests in IP may therefore be of great importance to the survival of technology-based small firms with otherwise few tangible assets to offer as security.

61 The alleged advantage of lowering interest rate with security does not apply to financially strong firms because the issue of probable default is not a concern. See Mann, “Explaining the Pattern of Secured Credit” (1997) 110 Harv LR 625.
62 See Lasfer, “Debt Structure, Agency Costs And Firm’s Size: An Empirical Investigation” (24 Nov 1999) available at http://www.business.city.ac.uk/af/wopapers/mez/debtStructure.pdf. This is a study of all companies quoted on the London Stock Exchange 1984-1996 which showed that secured debt is negatively related to firm size. Indeed, the proportion of small companies’ debt that is secured is three times (61%) of that seen with larger companies (17%). See, for example, Mokal op cit fn 51.
63 There is some evidence of this in the consumer market in respect of sub-prime financiers of motor vehicles. Up to 25% of the vehicles financed in this way are repossessed due to non-payment and sub-prime financiers take a special interest in the vehicles against which they lend through checking with asset registries such as HPI in respect of their condition and mileage information. Correspondence on file from Martin Brassell, Executive Director, HPI to Martin Hall, Director General Finance and Leasing Association dated 7 May 2003.
65 Ibid.
68 Op cit fn 64 at p26.
2. THE CREATION OF SECURITY INTERESTS IN IP ASSETS

INTRODUCTION

IP rights are hybrid in the sense that they are not only developed from property law and equity but they are also drawn from principles derived from commercial, company, insolvency and banking law. The focus of IP law is mainly concerned with encouraging and protecting marketable ideas. Outside of this focus gaps occur in the legal treatment and this can be illustrated in the context of the commodification of IP as assets, especially for the purpose of raising finance by way of security. The legal treatment is complex, cumbersome and inconsistent and, in large measure, the law is unusable from the point of view of sustaining a coherent security legal regime in IP assets. It is regrettable that, despite the wide-ranging approach adopted in its Consultation Paper No 176 to the issue of reform of England and Welsh personal property security law, the Law Commission did not adequately to deal with security interests in IP.1

The most common forms of secured finance instruments are mortgages, charges, pledges and liens.2 Since pledges and liens arise consensually or by operation of law and are possessory in nature,3 they have no application to intangible intellectual property that is not evidenced by title documents. Whilst it is true that registered trademarks and patents are evidenced by certificates of registration, these are not negotiable title documents, as would be necessary to create a lien or pledge.4 Of course, the option of assigning an IP interest to the financier (who would thereafter obtain control and in this sense possession of the asset) is a possibility but this is often a blunt instrument as it will involve the financier in the management and future commercial exploitation of the asset which few lenders could exploit themselves so, in practice, they would need to licence back the right to the debtor.

The charge and the mortgage are non-possessory and, as such, form the cornerstone of business financing since they do not involve possession and the removal of assets from the business enterprise. In the case of a mortgage, this is created by an assignment of personal property and transfers the whole title to the mortgage. A legal mortgage will create an equity of redemption in the mortgagor. Since the intellectual property will be needed by the mortgagor in its business, it will usually be necessary for the mortgagee to grant a licence-back to the mortgagor and this may also include giving the mortgagor a further power to grant sub-licences which could prove to be problematical for the financier.5 In contrast, a charge does not remove the chargor’s title but places an encumbrance on it to the value of the

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1 Law Commission Consultation Paper No 176, Company Security Interests (2004) paras 3.337-342. This is discussed more fully below at Section 4.

2 For a full discussion here see Law Commission Consultation Paper, Registration of Security Interests: Company Charges and Property other than Land No 164 (2002) at paras 2.6-2.19.

3 The possessory pledge is the most common and accepted European model for the creation of a security interest in movable property and this is based on the Roman law concept of pignus. The dilemma for the debtor with the pledge is its possessory nature: the collateral by being placed in the creditor’s hands is unproductive and cannot be used to repay the credit secured on it. It is for this reason that the non-possessory registered or unregistered pledge has emerged in civilian jurisdictions. Increasingly, the term pledge is used in a looser sense to include non-possessory security over bonds and shares held in, for example, Euroclear in Brussels. For a general discussion see Davies, “Retention of Title Clauses and Non-Possessory Security Interests” in Davies (Ed) Security Interests in Mobile Equipment (2002) Chapter 9.


5 For example, a base licence of copyright material is binding on every successor in title to the interest in the copyright. See s90(4) Copyright, Designs and Patents Act 1988. Thus, on default, the mortgagee may only be able to sell the copyright on to a third party, subject to the rights of the mortgagor/licensor. However, in the case of the film industry, creating security interests through assignment is the common method of raising finance and there is substantial experience of raising money in this way in this sector.
Financing of Welsh SMEs and the Commodification of IP Rights

outstanding debt. A charge is a more appropriate security mechanism because all that is needed is a declaration of charge but since this arises in equity and not law, notice must be given to third parties if priority is to be preserved: Equitable interests are defeated by "equity's darling", that is, the bona fide purchaser of a legal estate for value without notice. In this context, the requirement of registration is crucial.

Security can only be taken in respect of those elements of IP which consist of substantive proprietary rights, notably, copyright, patents, trademarks and design rights because these have an external value in the market place. A careful distinction must be drawn between "intellectual property rights" in copyright, patents, trademarks, design rights and "intangible rights", notably goodwill and confidentiality and, further, "physical materials" comprising of papers and documents containing IP subject matter, notably documents of title or assignment documents which can be used as security. Rights such as passing off or breach of confidential information are essentially procedural in nature, albeit based on a breach of a substantive right and are not, as such, capable of forming the basis of a security interest. Similarly, a moral right is not property in the sense that such a right is non-transferable and cannot be the subject of a security interest. This research will only focus on those rights which are transferable rights and have an immediate value, as distinct from those rights which have a contingent value or are non-transferable rights.

The nature of the notice mechanism, which, as we have discussed, is crucial to establishing and fixing priority for secured creditors, is dependent upon the distinction between registrable and non-registrable IP rights. These will now be considered in turn.

Registrable Rights

The registrable rights are patents, trade marks and traditional forms of designs, as well as plant breeders' rights. In the case of all the registered rights, they are fully transferable to third parties and are property rights in the sense that they are owned and are exclusive and binding against third parties. This is the effect of registration. However, the nature of the property right is more problematical. Under s30(1) Patents Act 1977 (as amended), the patent is referred to as personal property and not on a chose in action, whilst s22 of the Trade Marks Act 1994 refers merely to "personal property" and the Registered Designs Act 1949 (as amended) is simply silent on this point. The Plant Varieties Act 1997 on the other hand, creates sui generis intellectual property rights in new varieties of plants, as defined in s1(3). A careful analysis of the nature and effect of a patent is that it is a chose in action, since the

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6 This is also confirmed in the experience of Welsh firms. See Section 3 below at Figures 24-26.
8 Essentially, the focus is upon primary rights in IP assets created by statute. Whilst there are other IP rights not created by statute, such as trade secrets, these are by definition not subject to a security interest, as they do not confer a formal monopoly position and are protected by breach of confidential information which is a procedural right in respect of a secondary substantive right.
9 The UK has different classes of design rights under each of the Registered Designs Act 1949 and the Copyright Designs and Patents Act 1988. Under s1(1) of the 1949 Act, more traditional forms of design are included, such as those which can be judged by the naked eye. Under s213 of the 1988 Act, there is an unregistrable "original design" which is excluded from the 1949 Act. This covers designs that are not perceptible to the naked eye. For a discussion, see Cornish and Llewellyn, Intellectual Property: Patents, Copyrights, Trademarks and Allied Rights 5th Ed (2003) at, especially, paras 14.37-38.
10 See Patents Act 1977, s30; Trade Marks Act 1994, s24; Registered Designs Act 1949, s19; Plant Varieties Act 1997, s12; Copyright Designs and Patents Act 1998, s90(1).
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function of registration, as well as the certificate of registration, is to promote the exclusive right to exploit the invention evidenced therein.

As pointed out above, a legal mortgage in respect of registered IP rights involves an assignment of the legal title to the financier with an equity of redemption for the security provider, that is, this provides for the reassignment of the legal title on satisfaction of the debt due under the loan agreement. In the case of a legal mortgage, the assignment must be in the prescribed form, as set out under s136(1) Law of Property Act 1925 so that it will not be effective unless it is in writing, signed by or on behalf of the assignor. In contrast, a simple form of words indicating the fact that a transfer has occurred is all that is necessary to establish an equitable mortgage. Under s19 of the Registered Designs Act 1949, there is no requirement that the assignment must be a statutory assignment because all assignments have to be registered.11 In this respect, the dilemma of “notice” of an equitable assignment is in large part addressed by the mere fact of registration. In the case of trademarks and patents, assignments must conform to the statutory form12 and a failure to comply will render the assignment non-effective.

Historically, there were difficulties with assignments under trademark legislation as assignments in gross were outlawed under the Trade Marks Act 1938. Whilst the 1994 Act anticipates the creation of a security in a trade mark by way of a mortgage, the proprietor/financier must still police it and the mark will be lost if it is not used for five years, or that it has become a common name for the goods or services, or that it has been used in such a way as to mislead the public. No formal writing requirements are set out under s25(2) Trade Marks Act 1994, but the particulars which have to be lodged with the registrar under the Trade Marks Rules 200013 include the name and address of the assignee, the date of the assignment and a description of the right assigned. It would therefore appear that, in practice, writing is necessary in this context.

An issue which arises with regard to an assignment by way of mortgage is that, despite the fact that, in theory, arising out of the assignment and the right of redemption the mortgagee should appear on the register as the proprietor, in fact, in the case of patents, the mortgagee is simply registered as “mortgagees” on the register with the proprietorship remaining with the mortgagor.14 This approach was considered necessary because otherwise the patent holder/mortgagor would not be able to enjoy the benefit of the property for the duration of the security. At the same time, from the point of view of the registration process, the nature of the mortgagee will be significant. Thus, in the case of a consortium providing finance by way of security, s32(3) Patents Act 1977 prescribes a trust instrument being registered. The Patent Office will only register a consortium security right where the applicant is a member of the consortium and therefore a holder of a beneficial interest under the security and the consortium.15

As we have discussed,16 the charge is a more appropriate security mechanism than the mortgage and this is borne out by the Survey of Technology-Based SMEs in Wales.17 Since the charge arises in equity and not in law, notice to third parties is crucial and in this respect all the three main IP Statutes not only provide for a description of the relevant rights, they also contain a record of certain dealings in respect of those rights. We shall now consider these in greater detail.

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11 In s19 of the Act, the assignment is dealt with but there is no form required as it simply states “where any person becomes entitled by assignment.”
12 See Patents Act 1977, s30(6); Trade Marks Act 1994, s24(3).
13 SI 2000/136 r40(a).
14 This was recognised early on in the patent scheme. See Van Gelder, Apsiman and Co Ltd v The Sowerby Bridge Flour Society Ltd (1890) 44 CLD 374.
16 See above.
17 See Section 3 below.
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**Patents**
Under the Patents Act 1977, priority is determined by the date of registration of the security interest created by a charge over a patent or a mortgage over a patent created in writing or some other form of notice. Section 33(1) provides that any person acquiring property in a patent through a “transaction instrument or event”\(^{18}\) will take free of an unregistered right if the prior right was unregistered “and he had no knowledge of the prior right”. Similarly, s33(2) provides that the acquisition of any right in or under the patent will take free of an unregistered right or interest where the prior right is “incompatible with any such right acquired under the earlier transaction or event”, again subject to actual knowledge. It is clear therefore that until the interest is registered, it will be vulnerable to relegation behind subsequent charges or mortgages which includes licences made under such charges or mortgages.\(^{19}\)

**Trade Marks**
The Trade Marks Act 1994\(^{20}\) provides a duty to register with the registrar certain registrable transactions which include assignment in whole or in part of the trade mark, the granting of a licence or any fixed or floating security over the registered trade mark.\(^{21}\) Under s25(3) of the Act, the effect of non-registration is clearly indicated, that is, it is “ineffective as against a person acquiring a conflicting interest in or under the registered trade mark in ignorance of it”. Actual notice is therefore required.

**Registered Designs**
In the case of the Registered Designs Act 1949, this does not refer to priority. Whilst s19(3) provides that a person acquiring the design right or an interest to a part thereof shall apply to the Registrar to register the interest, nonetheless, s19(4) provides:

“subject to any rights vested in any other person, of which notice is entered in the register of designs, the person or persons registered as proprietor of a registered design shall have power to assign, grant licences under, or otherwise deal with the design, and to give effectual receipts for any consideration for any such assignment, licence or dealing: provided that any equities in respect of the design may be enforced in like manner, as in respect of any other personal property.”\(^{22}\)

This suggests that registration is not compulsory and that where it occurs, those interests which are not registered will remain valid, that is, they are subject to “any equities in respect of the design”.\(^{22}\) On the assumption that normal common law rules apply, a party to a later transaction will be bound by an earlier one if he had notice of the earlier transaction and this will include constructive notice from the Companies Act 1985 register if the earlier transaction is validly registered.\(^{23}\)

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\(^{18}\) Defined in s33(3) to include an “assignment” (s3(a)) and a “mortgage” (s3(b)).

\(^{19}\) The issue of notice of a charge registered under the Companies Register, but not under the patents register, as set out below.

\(^{20}\) Trade Marks Act 1994, s25.

\(^{21}\) Trade Marks Act 1994, s25(2)(c).

\(^{22}\) In interpreting s19(4), the first part can simply be construed not as providing for compulsory registration but that registration is one method by which notice occurs. “Equities” means a proprietary interest, so that any interest which is not registered remains valid under a non-compulsory registration scheme. However, notice must be offered in respect of the equities and this is achieved through registration. The justification for this approach is that the Judicature Act 1873 brought about the fusion of the tribunals of law and equity but the courts have continued to apply equitable rules. Section 136 of the Law of Property Act 1925 makes a statutory assignment of a legal chose in action effective in law “subject to equities having priority over the right of the assignee”. As a procedural reform, the normal priority rule of first in time will prevail.

\(^{23}\) See Law Commission Consultation Paper op cit fn 2 at para 2.49.
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There is a conceptual difficulty underlying all the IP registration statutes because, at the same
time, they seek to be both non-compulsory as well as compulsory registration schemes.
The common law environment is that a legal interest binds the world but since the Patents Act
and the Trade Marks Act do not actually establish a compulsory system of registration, legal
interests are treated as equitable interests since they have no effect against a subsequent
interest holder who does not have actual notice of their existence. It follows that actual
knowledge gleaned outside of the registration process binds a potential lender and significant
evidential problems can emerge from this approach. In the context of an efficient credit and
security regime, it is absurd to refer to the need to protect unregistered legal and equitable
interests by reference to notice on relevant title documentation. In this respect, the current
registered intellectual property schemes have been likened to the pre-1925 (unregistered)
land schemes.

Non-Registrable Rights

In the case of registered IP there exists a notice mechanism for equitable mortgagees and
chargees, as well as a process for creating security interests. This is obviously more
problematical in the case of a non-registered right such as copyright or a database right.

The basis for understanding the legal response in respect of non-registrable rights relates to
the nature of the property interest created. Under the Copyright, Designs and Patents Act
1988, copyright is, by virtue of s90, transmissible "as personal or moveable property", that is,
it is a chose in action and capable of assignment. Similarly, the "database right" is a "property
right". As a property right creating a security interest over copyrights or databases is easily
achieved: both may be assigned like any other form of personal property and this must be in
writing, signed by or on behalf of the assignor. In addition, it is possible to make an
assignment of future copyright or a future database right and on the creation of such a
copyright or database right, the assignment vests in the assignee.

With regard to removal of security interests, there is provision under s25(6) of the Trade
Marks Act 1994 for rectification of the register as long as the beneficiary of this interest
consents. In the case of patents and design rights, it is necessary for the applicant to show
that there was an error contained on the register. See Patent Rules 1995/2093, r47; Registered
Design Rules 1995/1105, r45.

Under the Law Commission Consultation Paper No 176, Company Security Interests
(2004), it is anticipated in para 3.338 that any interest over a registered intellectual property
will fall outside of the notice filing scheme recommended. Interests over currently non-
registrable rights will fall within the proposed notice filing scheme, unless an overseas
jurisdiction allows for registration.

Copyright Act and the Copyright and Rights in Databases Regulations 1997, Rule 13(1)
Databases Rights. Rights in semiconductor topographies should also be noted. The
Semiconductor Topographies Regulations create a form of unregistrable original design right,
created by s213 of the Copyright, Designs and Patents Act 1988. This extends the existing
original design right to computer chips, including electronic circuit layouts. See now the
Design Right (Semiconductor Topographies) (Amendment) Regulations 93/2497.

Copyright, Designs and Patents Act 1988, s90(3). The legislation is confined to
assignments, it does not prescribe how mortgages and other security interests should be
created. Thus, in the context of these security interests, the courts will examine the basis of
the transaction to determine the nature of the agreement, for example, leasing of film rights.
Op cit fn 27, r23. It is possible under s91 of the 1988 Act to assign prospective ownership of
copyright. Under s91(2) “future copyright” means copyright which will or may come into
existence in respect of a future work or class of works or on the occurrence of a future event.
The assignment can be whole or partial.

Potentially difficult problems arise where a prospective copyright owner has granted an
assignment of legal title in the future copyright to a mortgagee but had previously granted a
future licence to exclusively use the artistic creation. The mortgagee would take its title
subject to the licence when the copyright comes into existence, thereby perhaps
compromising the value of the security to the financier.
Copyright is attractive as a basis for security given its longevity, for example, the life of the author plus 70 years. In the case of rights vested in film directors, the period is a fixed term of 70 years, running from the end of the year of the production of the work. The duration of “related rights” such as those of performers is 50 years from the year of publication of the work. The main problem with a legal mortgage over copyright or database rights is that the mortgagor will require access to the asset to use it in the course of her business. To deal with this, it may be possible to arrange a licence-back so as to allow the mortgagor to continue to use the IP without infringing the rights of the financier who is now the legal owner of the IP rights in it. The problem of a licence-back is that a third party purchaser who has actual or constructive notice of the licence-back to the mortgagor will be subject to it. This will inevitably be the case in a default sale. To deal with this problem, a financier will need to provide a provision to the effect that the licence-back to the mortgagor will terminate on either a default under the security agreement or a default sale.

Database rights and copyrights in the UK do not offer themselves up to registration of interests. At present, the financier who holds a legal title to the right under a legal mortgage has no mechanism of putting others on notice of the financier’s interest through public registration. Of course, it may be possible to publicly include on a piece of art that the IP in question is subject to a security interest but such an approach is not a commercial solution since it could give the wrong impression as to the financial means of the originator of the work of art. Furthermore, in the case of database rights, there is no means of registering any form of mortgage or charge under the Companies Act 1985 because whilst s396(1) and 396(4) provide for registration, this extends to certain forms of IP such as goodwill, patents, trademarks, registered designs, copyrights and design rights and licences thereof. Database rights and rights such as plant breeders’ rights under the Plant Varieties Act 1997 are not included.

The legal regime in respect of copyright and database right is uncertain from the point of view of a financier seeking security as it is difficult to establish which rights are binding and also at present there is no appropriate notice mechanism to protect an equitable interest against future purchasers. The dilemma is one of striking an appropriate balance – the need to protect originators of copyright or database right through automatic recognition of ownership and the need to provide a safe means of establishing proof of ownership so as to facilitate the development of commercial security interests and thereby the exploitation of IP assets in this context. As we have discussed, the major difficulty is the visibility of prior rights and the problem is further accentuated by the fact that where the owner of a copyright grants an exclusive licence in it, such a licence binds a purchaser, as it does his predecessor in title, regardless of notice.

32 Ibid, Art 2.
33 Ibid, Art 3.
34 Somewhat incongruously, copyright infringement is subject to the criminal law, although this adds to the value of the copyright. The role of the state here in providing criminal sanctions is anomalous because why should copyright be treated differently to other private property? Indeed, See fn 26 above.
36 There are two types: the general licence, which will notice bind a purchaser or mortgagee of the copyright owner’s title in good faith for value and without notice; the second type is the exclusive licence under s92 of the Copyright, Designs and Patents Act 1988 which will bind a purchaser, as it does his predecessor in title, irrespective of notice.
37 Already some of the professional bodies representing artists operate registers of ownership. For example, ISBN and ISSN numbers are an industry registration scheme and a response to the need for regulations. See Townend op cit fn 15.
38 There are two types of licence available: the general licence and the exclusive licence. In the case of the former, a subsequent mortgagee in respect of the copyright without notice of it will, by virtue of s90(4) Copyright, Designs and Patents Act 1988, not be bound by it. In respect of an exclusive licence, s92 provides that this will bind a purchaser. An exclusive licence is defined in s92(2) as one which is created by signed writing “by or on behalf of the
In practice, the exploitation of IP is done within the corporate context and the SMEs who make up the constituency of IP Wales are almost always limited companies, not least in order to take advantage of grants available and tax concessions. In the light of this, the security interests regime, as it operates within the corporate framework, needs to be considered.

**THE CREATION OF SECURITY INTERESTS IN IP AND COMPANY LAW**

Under the present law, any charges created over IP owned by the company are subject to a registration requirement under s395(1) of the Companies Act 1985. For the purposes of that Act, s396(4) provides that a charge is construed widely to include mortgages. Non-registration of a registrable interest is fatal in respect of establishing priority rights in insolvency and liquidation in that a charge is void against third parties but not as between the parties themselves. There are 21 days to register a charge or mortgage from the date of creation. A problem is that there is no grace period linked to a certification of search of the registry so that an invisible interest can emerge thereby "trumping" a chargee by a supervening registration between the creation of the charge and its appearance on the register.

In the context of creating effective security interests in IP assets, there are additional problems relating to the issue of priority between the companies charges register and also the registers under the IP statutes. If a charge is registered on the companies charges register and not on the relevant IP register, this register will show that the patent or trademark is unencumbered. Whilst the onus is upon the financier to search the registers, if this is not achieved, apparently binding charges could thereby be void in a companies context for failure to register in either register. As such, it is appropriate to consider the issue of constructive notice, particularly of a charge registered in the companies register but not in the relevant IP register.

Constructive notice is the doctrine that imputes knowledge to a party who should have made enquiries and, had he done so, the interest would have been disclosed pursuant to proper and usual enquiries. It is unlikely that the registration in the companies registry will be notice for the purposes of the Patents Act 1977 (as amended) because s33(1)(c) refers to knowledge, that is, where the subsequent interest holder "did not know of the earlier transaction or event". The Trade Marks Act 1994 provides that a later transaction will have priority over an earlier one if the party to the later transaction is ignorant of the earlier one. The problem is that the Patents Act and the Trade Marks Act refer to actual notice being sufficient, unless the interest is registered. Does this therefore mean that unless the subsequent interest holder can be shown to have known about the previous interest he will not be bound by it? If so, constructive notice may be relevant in the sense that the subsequent interest holder should be deemed to have notice of a charge on the companies register where this must be registrable to have effect against third parties? Interestingly, the

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40 Companies Act 1985 ss400(1)-(2). Failure to comply with this requirement to register a charge already existing on property acquired by a company does not invalidate the charge in the same way as non-registration does. It is possible to seek rectification of the register under s404(2) Companies Act 1985 for late registration, subject normally to the rights of parties acquired during the period between the date of creation and the date of its actual registration.

41 The proposed approach of the Law Commission *op cit* fn 1 for reform of the companies charges regime based upon notice filing would address this point. See below.

42 For a discussion on the consequence of non-registration see Law Commission Consultation Paper *op cit* fn 2 at paras 2.26-28.

43 Trade Marks Act 1994, s25(3).

44 Compare negative pledge clauses which forbid the company to create any charge that will rank ahead of *or pari passu* with the floating charge. Such clauses are not registrable under the Companies Act and even if particulars of it are included in the registration, subsequent creditors will not have constructive notice of it because the doctrine of constructive notice
Registered Designs Act 1949 does not even specifically refer to priority and in this context it would appear that the normal common law rules will apply so a party will be deemed to have constructive notice under the Companies Act 1985 if the earlier transaction is validly registered.

The main problem relates to the fact that the IP statues do not provide for notice filing and actual knowledge gleaned outside of the registration process binds a potential lender. It is disappointing that the Law Commission did not deal with this issue satisfactorily in either of its Consultation Papers even though there was a general recommendation that notice filing should be implemented within the company charges regime and perhaps even extended beyond this. In the context of IP, the recommendation was simply that the priority scheme should be determined by the specialist IP register in the case of registrable IP rights. On the other hand, copyright and some design rights have no registration provisions and with respect to these categories of IP rights, the proposal is that the notice filing mechanism should apply. This would entail a different legal treatment depending upon the nature of the IP asset. As it is, there are significant problems under the present system associated with proliferation of the system currently involved. This can be illustrated in the context of insolvency. For example, if a financier failed to register under the companies registration procedure but did register earlier in point of time under the relevant IP statute, whilst another financier did not register under the IP statute but registered later with the company registration procedure, the latter financier would prevail upon the insolvency of the company debtor. The result would be otherwise outside of the insolvency context.

The current IP registries are concerned with documenting the conferral of rights, the identity of the original owner and all the assignees in the case of patents, trademarks and design rights. The IP registry systems were designed for transaction filing and although the registration systems are ownership-based, they do not necessarily show ownership, for example, assignments do not have to be filed. The registration process is flawed because whilst the patent system describes the rights that are claimed, trade mark registration does not describe the actual use made of the mark and non-use can lead to invalidity.

In Section 4 of this Research Report we shall consider the issue of the development of a scheme which facilitates the granting of security interests in IP. Before doing so, it is necessary to consider the nature of IP as economic assets because an essential aspect of taking security in an IP asset is the ability to define it or the economic benefit it generates. This is important from the point of view of realising the asset on default.

As we have identified above, there are problems associated with the perfection of security interests in IP under existing English law. At the same time, patents may be challenged for lack of novelty and are prone to obsolescence; fast moving technologies bring into focus the need to take security in future IP rights; the lender will need to monitor and police the IP, as

appplies only to those items which must be registered. Compare de Lacy (Ed) The Reform of United Kingdom Company Law (2003).

45 See above.
46 See fns 1 and 2 above.
48 Op cit fn 1 at para 3.292. All charges that are registrable under IP statutes it is recommended will be excluded from the proposed scheme.
50 See below.
51 See Townend op cit fn 15 at p42.
52 Once information is released, there is the possibility of using the information to “design around” the patent by producing a cheaper or more efficient product. This would not be an infringement of the patent but it could provoke costly litigation. Obsolescence may account for the high incidence of patents being allowed to lapse by the time of the first renewal fee obligation. See below.
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well as preserving it through renewing registration when appropriate, or, for example, if trademarks fall out of use for a period, they become invalid. Policing the renewal fees is a matter for the security contract and this is done typically by a provision that the debtor/owner sends a copy of the payment certificate to the financier/secured creditor by an agreed date. Where an IP right is allowed to lapse, this undermines the security and in this event a normal clause in the security agreement is that the debt becomes immediately repayable.

To avoid over-reliance on one piece of IP lenders take a security interest over a portfolio of IP assets, as financiers rarely have the expertise or the time to become managers of the IP assets. This is important in the context of infringement of IP assets because the defence of IP rights sends a signal to potential infringers of the IP of the owner’s vigour in defending or prosecuting IP rights. In an attempt to further avoid these risks, a financier may choose to take an interest in IP only from those firms with a successful track record of innovation, for example, where there have been no challenges or, if so, the companies in question have successfully upheld their rights.

53 Information and reminder notices are sent by the appropriate Registrar in respect of renewal fees. A grace period is given within which time the right can be restored. See Patents Act 1977 (as amended) s25(4), 28 and Regulations; Trade Marks Act 1994, s43(5) and Regulations; Registered Designs Act 1949, s8(4) and Regulations.

54 It is acknowledged that there are significant difficulties in practice, especially for small and medium sized enterprises in the enforcement of IP rights. The Patents Act (2004) seeks to provide a more supportive framework, especially for small businesses, to enforce patent rights. See ss74A-B Patents Act 1977, as inserted by Patents Act 2004. There has been considerable interest in Europe on the use of legal expenses insurance as a mechanism to assist in the enforcement of IP rights. Historically, however, the provision of IP insurance, of which patent litigation insurance is a part, has not been successful in Europe. See Patent Litigation Insurance: A Study for the European Commission on possible insurance schemes against patent litigation rights, Final Report, January 2003. The reasons are set out as follows in 5.2.1:

- High level of premium (for example, averaging 20-50,000 euros annually)
- Low level of indemnity, perhaps 200,000 euros in large countries where costs are highly variable
- Lack of awareness of the insurance
- Low level of appreciation of the importance of patents
- Inadequate understanding of the limitation of a patent grant and the need to be able to litigate to enforce
- Poor experiences in the past with conflict between insured and insurer
- Bad press reports from professional bodies such as CIPA

Restricted scope of policies including:

- Low indemnity
- Territorial restrictions frequently exclude the USA and Canada
- Need for complex and expensive evaluation of risk for insurers
- Burdensome restrictions and exclusions
- Poor definition of the IP covered, leading to disputes with insurers.

55 Whilst the law protects against infringement through damages, rights to destroy infringing goods and also account for profit, as well as injunctive relief to prevent further infringement, nevertheless, the costs involved are considerable, especially if the infringement has occurred outside of the UK. Furthermore, there is a conceptual problem in respect of the nature of the remedies available – an infringed holder of a monopolistic right ever be placed in the same position in respect of his monopoly that existed before infringement? This can easily be illustrated by reference to an infringement of a trademark – poor quality goods could have a significant impact upon the trade mark holder in terms of reputation. This will be compounded if a right of recourse against the infringer is frustrated due to the latter’s insolvency. See generally Townend, Using Intellectual Property As Security, The Intellectual Property Institute Report (1996).
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In order to reduce the time process for commercial exploitation, emphasis may be put on licensing in and licensing out technology, although such an approach may compromise the use of IP as security. Many licences terminate in the event of insolvency or other default by the licensee and upon default, it may be that the term of the licence is such that the licensor can take over the licensee’s business. Of course, this will undermine the value of the IP as security.

It may be that there are fundamental difficulties which arise out of the nature of the IP rights per se which preclude their effective use as collateral. All of these rights are concerned with the exploitation of monopoly by the creators of these rights but the law beyond the licensing of these rights has not been concerned with the development of these rights into other areas, notably ease of investment and raising finance on security of this category of property.

THE COMMODOIFICATION OF IP RIGHTS

A product or process may involve a cluster of IP rights and it may be impossible to separate the economic contribution of each part and take security over one component. Thus, a single product may involve a patent, trade mark and a design right in how the product is manufactured. Whilst one solution is to take a security interest over all the intellectual property in respect of a product, this does not alleviate the problem: a trade mark may relate to an entire product range so the borrower might be reluctant to encumber here and at the same time the financier is faced with the problem of having to monitor across the different classes of IP assets in order to protect their value.

The IP may not be separable from “know how” or as it is sometimes referred to as “show how”. A mortgage of IP rights and intangible rights will not give the lender security over physical materials which may be necessary so as to exploit the IP, including, sketches, drawings, designs, models, source codes, prototypes, photographs, manuals. Here, it may be that an effective security mechanism is the possessory pledge, that is, the original materials are deposited with an independent third party who will hold them as pledgeholder to the order of the lender. Furthermore, it is sometimes the case that the know how may have been acquired by the company from third parties under licence and normally the licence is terminated on the insolvency of the company or the appointment of an administrator or administrative receiver. It will be necessary to resolve these problems between the lender and third party, otherwise the lender will need to assess the risks inherent in the withdrawal of the know how.

Where the know how represents the collective experience, including the management prowess of a team or a number of individuals employed by a business, it will be necessary for the financier to obtain an express right to solicit and hire the debtor’s personnel in the event of foreclosure. Even so, the financier will be exposed to the risk that highly skilled employees may be lured to another business if they sense that the borrower’s business is in financial difficulty. Whilst appropriate obligations concerning disclosure and non-disclosure can be made, there is often the problem of identifying precisely the information involved.

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56 The main advantage of licensing out IP is that the licensor will enjoy a revenue stream from the licence which can then be factored or offered as a security to lenders.
57 Many licences expressly prohibit transfers. In addition, the licensee’s scope of permitted use may be restricted to certain territories or use on specific machines or for specified use or purposes. Licence agreements will often include affirmative obligations that can impose significant burdens on the foreclosing creditor.
58 In the case of a computer software program, this may entail rights in a combination of copyrights, trademarks, trade secrets and licence rights in the underlying software, together with related documentation.
59 In these circumstances, the borrower will need to reserve rights to use the IP in the debtor’s other products, notwithstanding a foreclosure of the creditor’s rights in the IP.
60 For a general discussion see Henry, “Mortgages of Intellectual Property in the UK” [1992] 5 EIPR 158 at p163. Any certificates or documentation evidencing an IP right is not negotiable or pledgeable. They therefore have no inherent value, unlike a share certificate or bond which can be the object of custody.
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The know how surrounding an IP right is, as we have seen, an essential aspect of the innovation necessary to transform the IP asset into a viable commodity. The totality of this process is sometimes referred to as the “intellectual assets” of a firm. These assets incorporate different types and levels of rights and obligations over time as well as contractual services. The main difficulty is that, as economic assets which can form the basis of collateral, there exists no standardised market for intellectual assets, unlike other forms of tangible assets which have an established market and tradition of valuation. Herein lies the dilemma because, as Nimmer has pointed out:

“How we should approach the question of value and the definition of property rights in an age where information systems dominate differs from the approach appropriate in the receding era where control over goods and real estate was the defining element of wealth, power and the ability to engage in commerce? Intangibles cannot be bent, folded, kicked or burned. The old axiom that possession is nine-tenths of the law makes little sense when discussing a form of property and value that can be simultaneously possessed (known) by hundreds, thousands and even millions of people.”

The Dilemma of Valuation

Historically, IP has not been separately identified and valued for the purpose of incorporation into financial accounts within the UK. By definition, this is a factor that undermines IP as an asset for the purpose of raising finance by way of security. Such an approach contrasts with that seen within the US where the Financial Accounting Standards Board has provided guidance as to how a company’s accounts should record the value of patents and other IP. The effect of this is that every organisation that does business in the USA will have to determine the fair market value of their intangible assets, rather than rely on historic values. This has significance because US companies will have to adopt a rigorous and controlled method for tracking and valuing their IP.

63 The commerciality of an intellectual asset is dynamic and this is problematical in terms of its suitability for security as an asset. For example, it can be transferred many times to multiple entities in different places through licensing which can be exclusive (to one licensee only) or non-exclusive; it may be limited to a geographical region and/or to a specific time period and/or for a specific purpose or field of use. Additionally, some licensees are permitted to sub-licence the right to a technology. Licensing is not a simple conveyancing issue, as it may have profound strategic repercussions for the business, for example, when many technology companies are engaged in “cross-licensing” with competitors (using each others’ patents or copyrights).
65 See Bezant, “The Use of IP as Security for Debt Finance” (1998) 1 Journal of Knowledge Management 237. Prior to the 1960s, business assets generally consisted of those tangible assets that were listed on the accounts of the borrower. Verification was achieved by physically viewing the assets, checking the receivables and reviewing the debt instruments. Even tangible assets today have a large intangible component to them through copyright, trademarks or patents. IP has become increasingly valuable as they cover the key technology of a going concern or they may be licensed to third parties as an important source of revenue. See below.
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The US approach reflects the fact that IP has been transformed from being purely a legal asset into a financial asset. Greater emphasis is therefore placed upon IP rights appearing in American company accounts, thereby producing a “brighter balance sheet” to that seen elsewhere. Contrastingly, in the UK, financial statements provide estimates on physical assets and financial capital but provide little information about intangible assets. As Bosworth has pointed out:

“In recent years, accounting procedures have come under increasing criticism because many of the assets of companies, such as ‘knowledge capital’, are created by investments that are not found anywhere on a firm’s balance sheet. As a consequence, the accounting measure of ‘book value’ is a downward-biased estimate of net asset value for many firms … the existence of poorly represented intangibles indicates the crucial need for firms to properly measure, monitor and manage such assets.”

Within the UK, the majority of firms do not carry out a formal valuation of their IP and a significant minority do not even collect statistics necessary for carrying out a valuation.

The valuation of IP is important for many reasons, including the issue of determining business values, capital allocation, taxes, licensing rates and damages in infringement situations or litigation. There are also wider considerations in terms of valuation, including the shift away from a tangible assets based economy to an intangible assets based economy. Indeed, within the US, studies have shown that approximately 70% of the market capitalization of most corporations is dependent on their intangibles. Of course, whilst these intangible assets represent market value, the main problem relates to the process leading to a safe valuation of the IP. Here, a careful distinction needs to be drawn between IP rights, where the owner has the right to enforce the benefits derived from the IP, and IP assets such as know-how and methodologies which are employee specific. Such assets cannot be transferred independently of the company, whilst IP rights can be.

The starting point in any IP valuation is to identify the proper premise for valuation. The following factors are relevant: First, the circumstances under which a prospective willing buyer

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69 In the Bezant and Punt Survey ibid, the following results emerged:
(i) The majority of firms do not formally monitor the performance of their IP;
(ii) The majority of firms do not value IP, even for internal management purposes;
(iii) Valuation of IP is more likely where transactions are involved, such as mergers and licence agreements;
(iv) Only a small minority of firms use IP as an asset to secure finance;
(v) Firms do not believe that acceptable methodologies to value IP currently exist.

The methodology of the Bezant and Punt Survey involved discussions with managers of both large and small organisations, various industries and classes of IP such as patents, copyright and trade marks. Discussions were also held with financiers, venture capitalists and specialist lenders in media and technology. Leading law firms were also consulted. Following a number of interviews, a questionnaire was devised and distributed to 300 organisations and professional advisers. A total of 46 completed responses were received.

70 This is important, especially in the context of settling the strategic management of IP assets, as well as mergers and acquisitions and also transfer pricing within multi-national firms.
71 In the US it appears that by March 2000, intangible assets accounted for 5 out of every 6 dollars of market capitalization. See Kossovsy op cit fn 66 at p13.
73 See above.
and a prospective willing seller would operate at the time of the envisaged transaction; second, the identity and economic profile of actual or prospective buyers; third, whether the IP asset is being sold as part of a going concern or on a stand-alone basis. Valuation for the purpose of realisation of security will often depend upon the IP being available as part of the sale of an overall business as a going concern. If no general market is available, individual purchasers will need to be identified and because of this, the price obtained may not be a guide to a price obtained for another piece of IP.

Valuation as a procedure is nothing more than a coalition of economic value and the legal concept of property. The search for a comparable market transaction is normally futile because the public trading markets that exist for financial and physical assets do not exist for IP assets. Such assets are, by definition, dissimilar which is a function of their being, for example, patents must be novel, copyright must be original and trademarks must be distinctive. Furthermore, the details of IP transfers are rarely made available to the public. In any event, the terms and conditions of such transfers vary widely, not least because they are crafted by lawyers to suit the special needs of their clients, different negotiation tactics may be employed and the price obtained may be distorted as a result of peaks and troughs of economic cycles.

There are philosophical dilemmas associated with the concept of value. In principle, value is the worth of the asset to the buyer and seller and if the price of an asset is greater than the value of the asset to the seller and less than the value of the asset to the buyer, it will be exchanged. Price is therefore an expression of the perceived value of an asset. Value is subjective and in this sense valuation methods are inherently uncertain: What is sought to be done is the quantification of the incremental benefits and costs arising from the use of the IP by way of profit and/or cash flows. This approach brings into sharp focus the methodology adopted in valuing the IP and this is not a simple exercise, not least because much depends upon the nature of the IP and also the industrial sector in which it operates. Also, valuing ongoing IP in its development stage can produce an artificial result because the time and cost of R&D is only loosely related to the market worth of the result.

Valuation tools can provide important guidance to the issue of estimating future economic benefits arising out of IP. These range from the traditional methods of income, market and cost through to surrogate and disaggregation, including rule of thumb methods where IP is treated as financial assets which may or may not have an extractable value. The principal valuation tools will now be considered.

The Cost Method
This is not helpful in the context of IP because the cost of developing an IP asset will often have little or no relationship to the market economics which determine the demand for the products or processes that embody the IP asset.

The Market Method
This approach can be seen, especially in land transactions and is predicated upon the following assumptions, namely, that there exists an active market, that there are a sufficient number of similar asset exchanges, that price information is available and that the exchanges have been between independent parties. Often in the case of IP, there are no comparable transactions. Even so, this method can provide a useful benchmark of IP value, for example, the range of royalty rates for a type of IP asset in a given market can be used to calculate an average asset value for comparison purposes.

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77 Ibid.
The Income Method

There are several aspects to this, including capitalisation of historic profits, gross profit differential methods, excess profits methods and the relief from royalty method which is based on the notion that the value of an IP asset can be measured by the amount the owner would pay in royalties to licence the asset if it was not owned. The royalty is then capitalised, reflecting the risk and return relationship of investing in the asset. The problem here is selecting the royalty rate. Another approach within this category is the disaggregation method, that is, the calculation of the residual earnings of a single IP asset requires the disaggregation of physical, financial and all other assets so that the book value of the IP asset in question can be determined.

An example of income disaggregation is the knowledge capital scorecard which subtracts from a firm’s normalised earnings the earnings from tangible and financial assets. The remainder of the earnings, which are generated by knowledge assets, is divided by a knowledge capital discount rate to calculate the value of the knowledge assets. The advantage of this approach is that it associates intangible assets with measurable earnings and calculates a present value for intangible assets. The main difficulty here relates to the valuation of intangible assets such as know how and management skills whilst there may also be indispensable linkages between IP assets such as patents and trade marks and trade secrets, all feeding into one product or process which cannot be disaggregated. To avoid this problem the competitive advantage method of valuation is sometimes applied. Here the value of a given IP asset is measured by the competitive advantage which that asset contributes to a product, process or service. If the IP asset is associated with multiple products, the relative competitive advantage contributions to each product is calculated and these contributions are summed to calculate the total value of the IP asset.

Perhaps the most comprehensive of appraisal techniques is discounting cash flows. Here, an examination of the earnings capability of the IP is undertaken, together with cash flows and profits and these are then restated to present value through the use of the discount rate. The operating environment is considered in order to determine the potential for market revenue growth and this is calculated by reference to the enduring nature of the asset, that is, the remaining useful life, the obsolescence risk and the duration of the asset in terms of its monopoly period. This will then quantify the shortest of the following lives, namely, physical, functional, technological, economic and legal and then will subsume consideration of expenses, together with an estimate of residual or terminal value. As such, this is a highly regarded method and is illustrative in the sense that it demonstrates the cash flow potential or not of the property. The discount rate to be applied to the cash flows are derived from different models such as the capital asset pricing model using a weighted average cost of capital.

The traditional methods of valuation, notably, income, market and cost are time-consuming and expensive. Essentially, the problem relates to identifying the cash flows from an IP asset and determining the risk of payment which can then be discounted against the cash flow. As Kossovsky has pointed out:

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78 The multiple of historical earnings method takes the past earnings of the IP asset over a period time and multiplies this by an appropriate factor.
79 This is the additional price and income attributable to the IP and is often associated with trade mark and brand valuation.
80 This is associated with earnings capability in order to induce investment. The problem here is that the methodology has difficulty in adjusting to alternative uses of the assets. See Gosling and Derwent op cit fn 72.
81 See below.
83 See Hagelin op cit fn 76.
84 See definition for capital assets.
85 See Kossovsky op cit fn 66 at p13.
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“The implicit assumption is that the profits are generated by a going concern, and in the setting of early stage technologies with little or no history of revenue generation, both the estimates of cash flow and the estimates of risk are subject to challenges of arbitrariness”.

In the light of this, a financier may seek to benchmark the IP asset by reference to comparable assets.

**The Ranking Method**
This compares the IP asset to be valued to comparable IP assets by reference to scoring methodology. The scoring may be determined subjectively or objectively. Subjective scaling generally uses a panel of experts, whereas objective scaling is based on measurable past experience. The scoring criteria are the factors used to compare IP assets, for example, market size, scope of protection and stage of development. Weighting factors are used to differentiate the importance of the scoring criteria. A decision table combines the scoring criteria, criteria values, the criteria weights so as to calculate a composite score which can then be compared to the average score for a comparable IP asset. Of course, the difficulty with this approach is the identification of comparable IP assets and the information costs are likely to be high.

**Surrogate Measures**
These do not value the IP by reference to profits or ranking or some other rule of thumb method but rather by reference to the quality of the IP asset itself. This approach is often adopted in the context of patents which can provide important signals as to the knowledge capital of a firm. In this respect, the number of patents issued to a company is taken as an indicator of the level of R&D and the number of product or process innovations, both of which are associated with market value. The payment of patent renewal maintenance fees is also an indicator of value and the quality of a patent portfolio; the more patents are renewed, the higher the quality of the portfolio.

Citations of patents provide an important signal of quality. Forward citation measures the number of citations to a patent as prior art in subsequently issued patents and the greater the number of citations, the greater the importance of a patent. The backward citation measure is the number of scientific papers cited in a patent – this is an indicator of basic science research underlying a patent. Citation weighted patent counts have been shown to be associated with a firm’s market value. In this respect, CHI Research provides a citation based method of valuing IP and a patent scorecard is published. The main difficulty with this approach is that it can ignore the disparity in patent value. Thus, a portfolio with a few broad patents may be more valuable than a portfolio with many narrow patents. In addition, while a large number of citations may indicate good scientific research, this does not necessarily equate with commercial value. Lastly, firms may inflate the value of their patent portfolios, for example, by filing more but relatively minor improvements to patents or cite more basic scientific papers.

**The Option Method**
Under this approach, IP is treated as a financial asset which may or may not have an extractable value. An analogy is drawn with the financial derivatives instrument, the call option and in this respect, the present value of an IP asset is treated as a function of five variables: the estimated cost to develop the IP to the next stage of value; the estimated time

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86 See below.
88 Ibid.
91 This formula was partly the basis for the 1997 Nobel Prize in Economics awarded to Scholes-Merton. Under this formula, the essence of a stock option value lies in the right to
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to reach that stage; the present value of comparable technologies; the variance in the log of the return on a hypothetical investment in those comparable technologies taking into account risk; finally, the risk-free cost of capital. In essence, the option valuation of IP regards investment in IP as an option to develop the IP further, or to abandon the IP, depending upon future technical and market information.

The advantages of option valuations are that it avoids exaggerating the risk of investing in IP assets and provides an objective means for the calculation of IP value. The main disadvantages relate to the complexity of option valuation and the requirement of extensive information databases, although there are third party vendors that provide background databases. In a sense, the logic of this approach anticipates the establishment of an electronic marketplace for IP which in time could enable “intellectual capitalists” to use IP expertise to extract value from IP assets. If this does develop further, this will provide an indication that the knowledge economy has officially arrived.

As we have discussed, the fundamental problem with the valuation of IP is that the marketplace for IP transactions is at best murky. It is for this reason that the licensing out of IP, that is, its authorised use by someone else is sometimes portrayed as overcoming the problem of valuation. The rationale for such an approach is that the subjective element is reduced and the receivables generated by the licence can be estimated.

**Licensing and the Royalty Approach**

Licensing conforms to the traditional view of a security instrument in that the licence separates the IP asset from the underlying business so that on the default of the licensor, the licensee is at least a potential purchaser of the IP asset. Even so, the need to value the

wait and see what happens to a stock’s price and to exercise or not exercise the option accordingly. The adaptation of stock option valuation to intellectual property valuation is based on the same “wait and see value”. See Black and Scholes, “The Pricing of Options and Corporate Liabilities” (1973) 81 J Pol Econ 637.

92 See, for example, http://www.pl-x.com.
93 Licensing operates in both directions. It can also be a means of consolidating a commercial relationship between two parties, such as through technology transfer, contract research and franchising.
94 Globally, the technology transfer market is substantial and is estimated to be approximately $100B. In the USA, overseas licensing revenue is in excess of $30B. If a grossing-up exercise is made based on US figures on the assumption of an average 4.5% royalty rate, the value of IP-based exports is now around the same as that for goods. In the five largest OECD economies, IP earnings from overseas in the form of royalties and licence fees grew at twice as fast as all service exports between 1993 and 1996 – increasing by over 73% in Japan, 49% in the US and 52% in the UK. See Clarkson “Avoiding Suboptimal Behaviour In Intellectual Asset Transactions: Economic and Organizational Perspectives on the Sale of Knowledge” (2001) 14 Harvard Journal of Law and Technology 712.
95 The licence establishes market credibility, that is, there is an established market.
96 The present value of the income stream can be determined. See below. In the film industry, advance licences is the basis for security and the issue here relates to the estimate of the value of these licences. Also, in the case of successful authors of books, a credit advance is often made based on track record. Similarly, established musicians can raise finance secured on the revenues from copyright portfolios.
98 Licences often place obligations on licensors, such as technical support, development and “patches” where software deficiencies emerge. Lenders may not wish to take this responsibility which may include statutory obligations in terms of health and safety or environmental obligations. To avoid these responsibilities lenders do not use licences as security but rather the income stream generated by the licences.
99 A portfolio of licences is extremely appealing as this reduces the uncertainty of a single licence, for example, the liquidity of the licensee and also the default risk.
IP cannot be ultimately avoided\(^{100}\) because this is necessary in order to settle what the royalty rate should be, that is, the appropriate fee for the right to exploit the IP.

Economic literature dealing with licensing\(^{101}\) and more generally evaluating the return from IP\(^{102}\) does exist but there is very little literature which sets out to develop an industry-based metric for royalty rates in respect of specific intellectual property assets.\(^{103}\) Conceptually, this is easy to state, that is, it should be the fair rate of return on the intellectual asset rights that are being transferred. Historically, intellectual property asset licences have rarely used quantitative analysis in determining the royalty rate, preferring instead rules of thumb. There are certain aspects which are common such as an upfront payment, a royalty percentage of ex works price, guaranteed minimum annual royalty. Indeed, in the USA, these have become industry standards, for example, the 25% of profits rule,\(^{104}\) the 5% of sales rule\(^{105}\) and the so-called industry norm rule.\(^{106}\) At first sight such a general approach is attractive because the necessary information in a market with only a small number of intellectual asset transactions is very costly to acquire or not available at all so that a rigorous quantitative analysis is not possible. However, the various percentage rules can be criticised on the basis that they are crude, as they ignore the difference in marketing, advertising and selling expenses for different technologies and they do not consider the number and utility of alternative technologies.\(^{107}\) Moreover, there may be significant differences in royalty rates within an industry and to focus upon these in the abstract is artificial without considering such factors as the presence of licence fees, cross licences, whether licences are exclusive or non-exclusive, the stage of the development of the technology, the bargaining position of the parties and the market demand.

Intellectual property asset transactions are by definition complex and subject to uncertainty and risk. The availability of information is critical in order to approach the issue of valuation.\(^{108}\) At the same time, it is necessary to process this information and a metrics can be very helpful here in order to optimise the intellectual property asset transaction. In this respect, an industry-specific metric for royalty rate negotiations has been identified as the difference between the aggregate earnings rate from companies with intellectual asset portfolios and the aggregate earnings rates from companies without such portfolios.\(^{109}\) The financial measure known as the weighted average cost of capital is significant in producing such a metric.\(^{110}\) In determining the royalty rate, the premise is that the licensor should be able to recover from the licensee a royalty stream that is comparable to its own return on intellectual property or, in the alternative, the average return for the industry. The determination of this is not easy since returns on intellectual assets are not normally set out in financial statements and it is therefore necessary to derive them from whatever data is available such as annual reports and other publicly available information. Even so, the industry average contribution to profit from intellectual property and intellectual assets is at least a starting point for royalty

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\(^{100}\) The industry context is obviously highly relevant. Thus, there are fewer problems of valuation in copyright-dependant industries such as film and music, as this IP is “stand alone” from the rest of the business. Royalties are easy to identify and assess from projected retail sales and market demand. Here the IP is exploited through licensing which generates royalty income which can then form the basis of security.

\(^{101}\) See, for example, Katz and Shapiro, “How to License Intangible Property” (1986) 101 QJ Econ. 567.


\(^{103}\) See Clarkson op cit fn 94.


\(^{106}\) See Megantz, How To License Technology (1996) at pp56-59.


\(^{108}\) See below.

\(^{109}\) See Clarkson op cit fn 94 at p714.

\(^{110}\) See Parr and Sullivan, Technology Licensing: Corporate Strategies for Maximizing Value (1996); Smith and Parr op cit fn 105
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negotiations because this can form the basis of a weighted average cost of capital calculation, specific to a company.

A major problem in adopting the above approach, especially in the context of SMEs is that of locating relevant financial information. Without such information\textsuperscript{111} a robust metrics cannot be available to process it and thereby maximise the value of the intellectual property asset. Clearly, the valuation process should be documented and based on empirical evidence. In this respect, the originators have a role to play, that is, in organising and collecting the information necessary to appraise the IP and also to ensure the monitoring of it.

It is very important for those companies with high ratios of intangible to assets to be able to resolve the dilemma of valuation, otherwise such companies, if they cannot raise finance by using their intellectual property, will be disadvantaged in terms of their ability to invest. As we have discussed, financial statements in the UK provide estimates on physical assets and financial capital but provide little information about intangible assets. The rationale is that such investments in R&D are risky and returns are uncertain. No single valuation method is definitive and the development of a robust valuation methodology is evolutionary with perhaps no terminal completion point, not least because much depends upon when the valuation occurs. Valuation at the outset only may not take into account future opportunities to exploit the IP in new markets. To avoid missed opportunities, the financier needs to establish an effective dialogue with the IP originator, that is, a partnership approach to the issue of managing the IP asset.

The valuation of IP may be equivalent to the “accountancy holy grail” and what we have here is a failure of traditional accountancy practices. One approach to the issue of valuation is to include a narrative description on the financial statement, drawing upon an inter-disciplinary methodology reflecting the fact that valuation of IP assets is a matter of law, economics, finance, accounting and investment. Essentially, the risk profile of the company will be relevant, that is, a balance between reporting the value contained within a company’s intangibles whilst at the same time recognising the risk attached to each part of the IP portfolio. Ultimately, this is an issue of corporate governance as to the role and appointment of the auditor.\textsuperscript{112}

\textsuperscript{111} The point is that the auditor should not be appointed simply by the directors and shareholders of the company but should perform a public interest role and be more independent and represent company staff and customers, that is, mapping a company’s risks. The complexity of the royalty calculation is such that as the KPMG Survey \textit{Intellectual Gold} (2002) showed, a significant proportion of European companies that licence their IP to third parties do not use royalty investigations to ensure that the proper royalties are received. The Survey found that the under-reporting of licences was common, often because of the complexity of the agreements, cost saving approximations and genuine misunderstandings.

3. SURVEY OF TECHNOLOGY-BASED SMALL AND MEDIUM Sized ENTERPRISES IN WALES

INTRODUCTION

Intellectual property plays a particularly important role in the start-up phase of a technologically-based small firm as they will often neither have a market reputation nor significant tangible assets which may be used as collateral. The capacity for such businesses to fulfil their potential depends on the availability of finance but markets for small firm finance are notoriously problematical and finance gaps can arise principally because of information and transaction costs.

The nature of IP activity, especially patenting, is such that it is during the development stage that the demands are capital intensive, calling the need for investment. A significant difficulty is the lack of cash revenues at this stage which makes the servicing of debt difficult, if not impossible for a technologically-based small firm. In order to deal with the high risk nature of the investment and also the fact that the timetable of profitability may be lengthy, the nature of external financing will, in all probability, be private equity. Where a revenue stream begins following the completion of the development of, for example, a patent, the demands for financing will include the need to fund market penetration and also the need for working capital. At this point, the original investors will have absorbed the development risk and will have produced a product with a proven market potential. Additional equity funding may therefore be restricted and a finance gap will emerge if it is necessary to continue investment in research and development. In this respect, a dilemma can arise in that whilst technologically-based small firms may have few tangible assets to offer as security, at the same time, they will have originated significant actual or potential IP assets which can only be accessed in terms of their suitability as collateral following careful evaluation by debt financiers.

As we have discussed, IP has rarely been used as security for debt financing. Where IP has been used this has been in addition to security taken over tangible assets and then almost as a catch-all security provision with little acknowledgement of the value of the IP. Financing is traditionally provided by way of a combination of fixed charges over a business’ tangible assets, such as land, and a floating charge over all of the business’ assets. Evaluation of IP as specific collateral has therefore generally occurred. Such an approach is problematical because the availability of security is important to the survival of many small firms.

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3 Transactional costs arise in respect of expenditure on due diligence inquiries, legal documentation and the cost of advertising for investors.
4 Firms will usually use internal sources of finance before seeking external funding. See Cosh and Hughes, “Size, Financial Structure and Profitability: UK Companies in the 1980s” in Hughes and Storey (Eds) Finance and the Small Firm (1994). This is sometimes referred to as the “pecking order hypothesis”.
8 See Section 2 above.
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Little empirical research has been conducted in respect of the use of intellectual property by originators as collateral capable of raising secured finance with an extractable value. This Survey seeks to ascertain the experience of businesses and professionals with regard to the use of IP as security for finance with specific reference to technology-based SMEs in Wales.

**METHODOLOGY**

Group specific questionnaires were compiled for businesses, legal practitioners, accountants and financiers/venture capitalists. Upon completion of the pilot study, the final questionnaires were compiled and respondents were identified. With regard to the identification of businesses, both self-selecting techniques and informed-selection techniques were used, that is, all members of IP Wales were sent questionnaires by e-mail where appropriate or by post. Other businesses were selected based upon a review of their ownership of intellectual property assets. All Welsh businesses appearing on the Kompass database were searched using Patent Office facilities so as to obtain information regarding their ownership of patents and trade marks. It became clear that businesses owning such intellectual property rights largely fell into certain categories under the Kompass codes and thus questionnaires were sent to all businesses that were classified under such codes either by e-mail where appropriate, or by post.

As to the selection of legal practitioners, the Chambers and Partners Directory was used so as to identify those practitioners nominated as the Best Business Lawyer 2003, and those individuals nominated as leading individuals or up and coming individuals in the fields of IP, financial services, asset finance, banking and finance, commodities and company law. In this respect, the identification of accountants, regard was had to the Accountancy Age database that identified the top 50 accountancy firms in the UK. The website of each of these firms was then interrogated so as to identify suitable candidates. Financiers and venture capitalists were identified by their membership of the BVCA. Legal practitioners, accountants and financiers/venture capitalists were sent group specific questionnaires via e-mail.

Given the specialised nature of the questionnaires, a good response rate was achieved. 301 businesses responded, with 46 legal practitioners and accountants responding. Fewer responses were received from financiers/venture capitalists, but the information obtained was sufficiently detailed so as inform the research analysis.

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11 The aim of IP Wales is to provide business support to SMEs and help develop their business through the use of patents, trademarks, industrial designs, copyright, database rights, know-how and licensing agreements. IP Wales aims to provide businesses with the knowledge and financial means to protect and commercially exploit their IP assets.

12 2,376 Welsh businesses were identified.

13 551 individuals were identified.
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NATURE OF QUESTIONNAIRE RESPONDENTS

Questionnaire respondents were asked to indicate whether their business was an SME, a national company, or a multi-national company. As can be seen from Figure 1 below, 95% of questionnaire respondents fell into the SME category.

Figure 1

How Would You Describe Your Business

- SME: 95%
- National Company: 1%
- Multi-national Company: 4%
Respondents were asked to specify under which industrial sector their business could be classified. Where necessary, more than one sector could be indicated and so recorded. As can be seen in Figure 2, the manufacturing sector accounts for a significant proportion of respondents. Together with construction, manufacturing also featured prominently within the group of respondents who selected more than one industrial category.

Figure 2

![Industrial Sector of Respondent](image)

**OWNERSHIP OF INTELLECTUAL PROPERTY RIGHTS**

Respondents were asked about their ownership of intellectual property and the response is set out in Figure 3 below.

Figure 3

![Ownership of IPR](image)
Respondent businesses that reported ownership of intellectual property rights were then asked to specify which rights they retained. As exemplified by Figure 4, 62% of respondents professed to own trade marks, 57% claimed ownership of copyright, 51% reportedly held patents and 26% owned industrial design rights.

Where IP was claimed, respondents were asked to provide information on the value of their intellectual property. As the question invited an open-ended response, the data returned by questionnaire respondents fell into three categories: where the value of the assets was unknown; where a quantitative value was given; or where a qualitative response was provided. It can be seen by Figure 5 below that 57% of respondents that reportedly owned IP assets, gave a quantitative response to the question of monetary value.
Whilst a significant variation in the quantitative responses was received, answers could be codified into broad categories. It can be seen that 21% of respondents reported that their intellectual property assets were of no value, with 19% of respondents reporting a value of between £251k to £1 million. Only one respondent reported a value in excess of £10 million.

Figure 6

So as to identify methods of valuation, respondents were asked whether their business had a formal mechanism in place for the valuation of their intellectual property assets. The overwhelming majority of businesses stated that they did not have such a mechanism.

Figure 7
Financing of Welsh SMEs and the Commodification of IP Rights

When contrasting the valuation methodologies of businesses against the quantitative stated worth of the IP asset, it can be seen from Figure 8 below that businesses on both ends of the valuation spectrum did not have any formal valuation mechanism. Only those businesses that reported a value in excess of £97k but less than £1m+ claimed to have a formal mechanism for the valuation of their intellectual property rights.

Figure 8

<table>
<thead>
<tr>
<th>Quantitative Monetary Value put on IPA</th>
<th>Business Have a Formal Mechanism for Valuing IP</th>
</tr>
</thead>
<tbody>
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<td>Unknown</td>
<td>Yes</td>
</tr>
<tr>
<td>None</td>
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<td>0</td>
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</tr>
<tr>
<td>Over 10m</td>
<td>0</td>
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</tbody>
</table>

14 The three responses consisted of 1 respondent reporting an IP value of £97,000 and 2 respondents reporting an IP value of £100,000.
Financing of Welsh SMEs and the Commodification of IP Rights

It can be seen from Figure 9 below, that only 4 out of the 29 respondents who provided a qualitative answer to the question of monetary value identified their business as having a formal mechanism for the valuation of their IP assets.

Figure 9

<table>
<thead>
<tr>
<th>Qualitative Value put on IPA</th>
<th>Business Have a Formal Mechanism for Valuing IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very little, if any</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Several million</td>
<td>1</td>
</tr>
<tr>
<td>Cost of obtaining / developing IPA</td>
<td>0</td>
</tr>
<tr>
<td>Hundreds of thousands of pounds</td>
<td>0</td>
</tr>
<tr>
<td>Individual value of each contract</td>
<td>0</td>
</tr>
<tr>
<td>Varies depending on usage of copyright mat.</td>
<td>0</td>
</tr>
<tr>
<td>IP valued as part of package used in neg. with investor</td>
<td>1</td>
</tr>
<tr>
<td>Priceless</td>
<td>0</td>
</tr>
<tr>
<td>Each patent in excess of £1m</td>
<td>0</td>
</tr>
<tr>
<td>Millions</td>
<td>0</td>
</tr>
<tr>
<td>UK company doesn’t value IP but Swiss parent might</td>
<td>0</td>
</tr>
<tr>
<td>High value</td>
<td>0</td>
</tr>
<tr>
<td>£2k per annum</td>
<td>0</td>
</tr>
<tr>
<td>Not capitalised on balance sheet</td>
<td>1</td>
</tr>
<tr>
<td>£3k – £4k euros per annum</td>
<td>0</td>
</tr>
<tr>
<td>When patents obtained and proven, be of immense value</td>
<td>0</td>
</tr>
<tr>
<td>More than £1m less than £4m</td>
<td>1</td>
</tr>
<tr>
<td>£50k - £70k</td>
<td>0</td>
</tr>
</tbody>
</table>
In addition to the monetary value of their intellectual property assets, respondents were also asked to indicate the economic impact in terms of the number of jobs associated with the particular IP asset. As can be seen from Figure 10, the majority of respondents reported some correlation between ownership of an IP asset and employment.

**Figure 10**

![Percentage of Staff Employed as a Result of IPA](image)

**RESPONDENTS AND PERCEPTIONS OF FINANCE**

As demonstrated by Figure 11 below, when asked whether intellectual property can have a positive influence upon a financier's decision to lend a business money, 73% of respondents reported a belief that it did.

**Figure 11**

![IPA Have a Positive Influence on a Financier's Decision to Lend Business Money](image)
Financing of Welsh SMEs and the Commodification of IP Rights

Only 54% of respondents believed that IP rights would have a positive influence upon a financier’s decision to give improved lending terms (Figure 12).

Figure 12

IPA Have a Positive Influence Upon Financier’s Decision to Give Improved Lending Terms

43% 3% 54%

When asked whether they had been required to give up equity in the business so as to obtain finance, 75% of respondents stated that they had not.

Figure 13

Ever Been Required to Give Up Equity in Business to Obtain Finance

75% 1% 24%
However, 40% of respondents had considered diluting ownership in the business so as to obtain a capital injection (Figure 14).

When contrasting the responses to the consideration of dilution of ownership by group according to ownership of IP assets, it can be seen that whilst 51% of those respondents who did own IP assets would consider diluting their ownership in the business so as to obtain a capital injection, only 23% of respondents who did not own IP rights stated that they would consider such (Figure 15).

### Figure 15

**Ever considered diluting ownership to obtain capital injection**

<table>
<thead>
<tr>
<th>Ever considered diluting ownership to obtain capital injection</th>
<th>Business owns IPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Ever considered diluting ownership to obtain capital injection</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>no</td>
</tr>
<tr>
<td>Total</td>
<td>176</td>
</tr>
</tbody>
</table>
Financing of Welsh SMEs and the Commodification of IP Rights

As can be seen from Figure 16 below, such a difference in opinion can be seen to be relevant at the 1% level of probability. Businesses that own intellectual property assets are statistically more likely to consider diluting ownership in the business so as to obtain a capital injection, than those businesses who do not retain such intellectual property rights.

Figure 16

<table>
<thead>
<tr>
<th>Business owns IPR</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever considered diluting ownership to obtain capital injection yes</td>
<td>176</td>
<td>1.49</td>
<td>.501</td>
<td>.038</td>
</tr>
<tr>
<td>no</td>
<td>125</td>
<td>1.77</td>
<td>.424</td>
<td>.038</td>
</tr>
</tbody>
</table>

Respondent businesses that reportedly owned intellectual property were then asked whether they would consider using their IP assets as collateral for debt finance. In support of the findings above, it can be seen from Figure 17 below, that 60% of respondents stated that they would consider this.

Figure 17
THE USE OF INTELLECTUAL PROPERTY ASSETS AS SECURITY

Respondents who had reported ownership of IP assets were asked whether their business had used such assets as security for a loan or finance. It can be seen from Figure 18 below, that 90% of IP owning businesses had not used their IP assets as security.

Figure 18

Those businesses that had used their intellectual property assets as security for a loan or finance were asked to identify which assets had been used. It can be seen from Figure 19 below that there were 7 reported instances of using a group of patents as security, with 6 reported instances of using a portfolio of patents and a combination of IP assets alike.

Figure 19
Financing of Welsh SMEs and the Commodification of IP Rights

As can be seen in Figure 20, of those 16 respondents purporting to have used their IP assets as security, 6 reported that the nature of the security interest was that of a charge, 6 respondents reported that they undertook an assignment of IP rights and only 1 reported a mortgage being utilised. 3 respondents failed to provide any information as to the nature of the security interest.

Figure 20

![Nature of Security Interest](image)

When asked to state the source of their finance, it can be seen from Figure 21 below that 4 respondents obtained their finance from a source categorised as “other”, 3 respondents obtained funding from banks and venture capitalists respectively, with 2 respondents obtaining finance jointly from banks and venture capitalists.

Figure 21

![Source of Finance](image)
Respondents, whose business reportedly owned intellectual property rights but had not used them to raise finance, were asked to provide reasoning for such. As can be seen in Figure 22, 52 of the 159 relevant respondents stated that they had not used their IP assets to raise finance as it had “not been necessary”, with 15 and 12 respondents respectively stating that they had never considered the possibility or associated any value with their IP assets. 8 respondents professed a “lack of knowledge” with 7 respondents stating that their IP had been a recent development, or a development which had not yet fully matured and been proven.

**Figure 22**

<table>
<thead>
<tr>
<th>Reason for not using IP</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing Values</td>
<td>13</td>
</tr>
<tr>
<td>Has not been necessary</td>
<td>52</td>
</tr>
<tr>
<td>Never considered the possibility</td>
<td>15</td>
</tr>
<tr>
<td>No value associated with the IPA</td>
<td>12</td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>8</td>
</tr>
<tr>
<td>IP is a recent development / not fully matured and proven</td>
<td>7</td>
</tr>
<tr>
<td>Lenders perceive it to be valueless</td>
<td>3</td>
</tr>
<tr>
<td>Lack of opportunity</td>
<td>3</td>
</tr>
<tr>
<td>Unaware that lenders recognised IP as an asset</td>
<td>3</td>
</tr>
<tr>
<td>Starting to use IP as an asset now</td>
<td>3</td>
</tr>
<tr>
<td>Never considered its value outside business, only the need to protect it</td>
<td>2</td>
</tr>
<tr>
<td>Asset too valuable to risk losing it to a V.C.</td>
<td>2</td>
</tr>
<tr>
<td>Maintain independence, never risk losing that</td>
<td>2</td>
</tr>
<tr>
<td>Difficult to quantify value</td>
<td>2</td>
</tr>
<tr>
<td>Not necessary at present but maybe in future</td>
<td>2</td>
</tr>
<tr>
<td>Bank preferred other assets as security / do not like intangible assets</td>
<td>2</td>
</tr>
<tr>
<td>Value of IPR only became significant recently</td>
<td>1</td>
</tr>
<tr>
<td>IPA not wholly owned</td>
<td>1</td>
</tr>
<tr>
<td>Part of a multi-national company – funds not raised for this part of the business alone</td>
<td>1</td>
</tr>
<tr>
<td>Cost of obtaining advice and valuation prohibitive</td>
<td>1</td>
</tr>
<tr>
<td>Many one-off designs to suit particular situation</td>
<td>1</td>
</tr>
<tr>
<td>Suspect will be asked/required to do this, but not seen terms and conditions to make a decision</td>
<td>1</td>
</tr>
<tr>
<td>Use bank feasibility study approach as primary driver</td>
<td>1</td>
</tr>
<tr>
<td>Prefer to use other assets so IPA unencumbered</td>
<td>1</td>
</tr>
<tr>
<td>IP products represent only a small percentage of revenues</td>
<td>1</td>
</tr>
<tr>
<td>Work in partnership with customers who won’t let us retain IP</td>
<td>1</td>
</tr>
<tr>
<td>Only just reached point where IPA relate to a finished product</td>
<td>1</td>
</tr>
<tr>
<td>Business too small at the moment</td>
<td>1</td>
</tr>
<tr>
<td>Never put a value on IPA before</td>
<td>1</td>
</tr>
<tr>
<td>Haven’t had to so far, but have had to give up some equity in business</td>
<td>1</td>
</tr>
<tr>
<td>New business, so commercial value of IP still needs to be supported in trading accounts</td>
<td>1</td>
</tr>
<tr>
<td>Money raised from Business Angels to generate IP</td>
<td>1</td>
</tr>
<tr>
<td>Didn’t know the feasibility of such</td>
<td>1</td>
</tr>
<tr>
<td>Investors wanted too great a percentage of company</td>
<td>1</td>
</tr>
<tr>
<td>Raising finance is now on the agenda, if required would assess the options</td>
<td>1</td>
</tr>
<tr>
<td>Need advice</td>
<td>1</td>
</tr>
<tr>
<td>IPR too diluted</td>
<td>1</td>
</tr>
<tr>
<td>Have not been requested to do such</td>
<td>1</td>
</tr>
<tr>
<td>Company is a wholly-owned subsidiary</td>
<td>1</td>
</tr>
<tr>
<td>IPA not valued, other than cost, in the accounts</td>
<td>1</td>
</tr>
<tr>
<td>IP only has value in terms of lender confidence-building</td>
<td>1</td>
</tr>
<tr>
<td>Couldn’t find a financier who would value IPA</td>
<td>1</td>
</tr>
<tr>
<td>Banks not put a realisable value on IPA as a basis for security</td>
<td>1</td>
</tr>
<tr>
<td>Legal restrictive reasons</td>
<td>1</td>
</tr>
</tbody>
</table>
THE USE OF INTELLECTUAL PROPERTY AS SECURITY FOR FINANCE: THE EXPERIENCE OF LAWYERS AND ACCOUNTANTS

THE NATURE OF RESPONDENTS

Lawyers and accountants were surveyed. Of those that responded, 59% were legal practitioners, whilst 41% of respondents were accountants.

LEGAL INSTRUMENTS EMPLOYED WHEN USING IP TO RAISE FINANCE

In order to ascertain the legal instruments used in practice for perfecting security instruments in IP, legal practitioners were asked what experience they had in using IP as collateral for raising finance. From Figure 24 below, it can be seen that the most frequently reported instruments were that of an assignment of IP rights and the charge.

---

15 For a description of the selection methodology see above.
16 Information contained in Figures 24 to 27 reflects the views and experiences of legal practitioners alone.
So as to determine any factors that may influence the selection of the security or finance instrument in terms of their effectiveness and suitability, legal practitioners were asked to assess the ease of creation of each finance tool, together with their ease of enforcement.

It can be seen from Figure 25 below that not only were the assignment of rights and the charge the most frequently used by legal practitioner respondents, but they were also deemed to be “fairly easy” to create by 52% and 48% of respondents respectively.

Figure 25

![How Easy are the Finance Instruments to Create](image)
Financing of Welsh SMEs and the Commodification of IP Rights

Moreover, as can be seen from Figure 26 below, 44% of respondents viewed the assignment of rights as being “fairly easy” to enforce, with 26% of respondents believing the charge to be “fairly easy” to enforce. Thus, it may be that the relative ease of creation and enforcement is linked to the increased rate of usage of the assignment or charge.

Figure 26

So as to ascertain the significance of securitisation involving intellectual property assets and their receivables, respondents were asked whether they had been engaged in securitisation based upon IP assets. As illustrated by Figure 27, only 20% of respondents reported an involvement in such. Of those respondents who had engaged in securitisation based upon IP assets, 67% professed to be “fairly experienced” and 33% professed to being “not experienced” in such a process.

Figure 27

17 Respondents could either select the answer “experienced”, “fairly experienced” or “not experienced”
THE CHARACTERISTICS OF THOSE USING IP TO RAISE FINANCE

Questionnaire respondents were asked to provide information on those businesses that typically offered their IP assets as security for debt financing.

It can be seen from Figure 28 below, that out of the twelve possible industrial sectors,\(^{18}\) only six sectors were identified by questionnaire respondents as typically offering their IP as security for finance. Moreover, of those six sectors identified, the Recreation and Other Services sector, together with the Business services and Manufacturing sectors, accounted for a combined 79% of those sectors identified.

Figure 28

<table>
<thead>
<tr>
<th>Industrial Sectors That Typically Offer Their IP as Security for Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td>Business Services</td>
</tr>
<tr>
<td>Transport &amp; Communications</td>
</tr>
<tr>
<td>Health</td>
</tr>
<tr>
<td>Recreation &amp; Other Services</td>
</tr>
</tbody>
</table>

Questionnaire respondents were also requested to identify the status of companies offering their IP assets as security. As illustrated by Figure 7, 70% of questionnaire respondents reported that companies offering IP as security tend to be SMEs.\(^{19}\)

\(^{18}\) Questionnaire respondents were offered a choice of 12 industrial sectors, derived from UK(SIC)92.

\(^{19}\) Defined as an enterprise that employs less than 250 individuals.
THE VALUATION PROCESS

Questionnaire respondents were asked to provide information on the valuation procedure of IP, as this would give an indication of the perceived worth of the IP as an asset.

As demonstrated by Figure 30 below, 52% of questionnaire respondents had reportedly sought to value an intellectual property asset.
Those respondents who had sought to value an IP asset were then asked to provide information on the valuation procedure. As can be seen from Figure 31 below, when seeking to value an IP asset, 83% of respondents sought the advice of an “expert” such as sector specialists, patent agents and accountants.

Figure 31

When Valuing IPA Do You Use Experts

When asked to identify the mechanism by which the asset was valued, it can be seen that 71% of respondents reportedly used an “ad hoc” approach, with 58% of respondents reportedly employing a set of criteria.

Figure 32

Mechanisms By Which IPA Valued

Information contained in Figures 31 to 47 reflects the views of those respondents who had sought to value an IP asset.

Respondents could choose more than 1 answer from the multiple-options given.
As set out in Figure 33 below, 71% of respondents viewed their method of valuation as being “subjective”.

Figure 33

![Pie chart showing the percentage of respondents who view their method of valuation as subjective.]

Figure 34 considers the stage at which respondents undertook a valuation of IP assets. It can be seen that 42% of respondents continuously reviewed22 the value of IP assets.

Figure 34

![Bar chart showing the stage at which assets were valued.]

---

22 Meaning periodic review, that is, at relevant times.
As shown in Figure 36, these difficulties could be classified into three categories and ranged from difficulties arising out of the subjective nature of valuation, to practical difficulties and economic issues.

<table>
<thead>
<tr>
<th>Category of Difficulty</th>
<th>Difficulty</th>
</tr>
</thead>
</table>
| Subjectivity           | Subjective nature  
                           Valuation is subjective & there are rarely any comparators in the market  
                           Subjectivity and lack of competent valuers  
                           Too subjective and difficult to support  
                           Subjectivity around future cash flows and appropriate discount rates  
                           It is context dependent |
| Practical difficulties  | Very little references available to help  
                           Depends on negotiating positions of parties, as in share valuations  
                           Lack of historical data, uncertainty of future performance and marketability, fast moving technology  
                           Ownership / income history may be too short and way to value future plans difficult  
                           Diversity of IPA and finding an expert opinion as to value  
                           Uncertainty of income streams  
                           Lack of formulaic approach  
                           Cost  
                           Valuation largely artificial unless value is realisable  
                           Valuation is often dealt with in the accounts, therefore it is on an annual basis and is historic  
                           It is difficult to value early stage technology. There can be difficulties in obtaining accurate and relevant market comparisons |
| Economic difficulties   | Depends on economic factors at time of financing  
                           Some valuation issues are contentious, such as entering of the market, price of goods, timing of delivery etc |
Questionnaire respondents were also asked what type of intellectual property was in their experience the most amenable to the creation of security interests. As set out in figure 37, the majority of respondents viewed the patent as being the easiest form in which to take security. The reasoning for such can largely be seen to be due to the registration system of the patent (Figure 38).

**Figure 37**

<table>
<thead>
<tr>
<th>IPR and Creation of Security Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>63% Patent</td>
</tr>
<tr>
<td>25% Copyright</td>
</tr>
<tr>
<td>8% Trade Mark</td>
</tr>
<tr>
<td>4% No difference</td>
</tr>
</tbody>
</table>

**Figure 38**

<table>
<thead>
<tr>
<th>Form of IPR</th>
<th>Reason</th>
</tr>
</thead>
</table>
| Patent      | Registration system of the patent  
|             | It is a tangible registered right of a determined length  
|             | It is a registered right with industrial value  
|             | It is the most common  
|             | It is a monopoly right that is easily proved, licensed and exploited once it is registered  
|             | It is easier to defend breaches  
|             | It is easier to prove ownership, protect and enforce  
| Copyright   | It is easier to predict income flows & more possibility that there is a market  
|             | It is easier to realise as security as it is not so business specific and is easy to transfer  
| No difference | If legal ownership is provable and transferable, it should make no difference what form the IP is in  
|             | An identifiable income stream is more appropriate  
|             | All IPA are subjectively valued, mainly according to future income streams  
|             | They are all intangible rights  
|             | Registered rights are much easier than unregistered rights. Domain names are not listed, but these have their own difficulties  |
Financing of Welsh SMEs and the Commodification of IP Rights

Questionnaire respondents were also asked whether the industrial sector of a business impacted upon the value of its IP assets. As can be seen in Figure 39, 62% of respondents believed that the industrial sector of a company impacted upon the value of its intellectual property rights. As detailed in Figure 40, this was largely due to sector performance in terms of volatility and track record, together with the type of IP asset typically held by a particular sector.

Figure 39

<table>
<thead>
<tr>
<th>Does the Sector of the Company Have an Impact Upon Value of IPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>38%</td>
</tr>
<tr>
<td>62%</td>
</tr>
</tbody>
</table>

Figure 40

<table>
<thead>
<tr>
<th>Sector Have Impact</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Sector performance may be different ie volatility and track record</td>
</tr>
<tr>
<td></td>
<td>The sector is the most relevant factor when valuing an IPA</td>
</tr>
<tr>
<td></td>
<td>Because valuation is context dependent</td>
</tr>
<tr>
<td></td>
<td>Sector adds enormous value to the IP</td>
</tr>
<tr>
<td></td>
<td>Funding varies, dependent on sector</td>
</tr>
<tr>
<td></td>
<td>Surely it must have an impact</td>
</tr>
<tr>
<td></td>
<td>IPR linked to the value of the product / business</td>
</tr>
<tr>
<td></td>
<td>Software is very uncertain and the length of its value may be short, whereas manufacturing has a longer life</td>
</tr>
<tr>
<td></td>
<td>Copyright is more often traded and therefore is more valuable than other IPR</td>
</tr>
<tr>
<td></td>
<td>Question of intangibility eg software</td>
</tr>
<tr>
<td></td>
<td>Some sectors are used to dealing with IPR ie film and software</td>
</tr>
<tr>
<td></td>
<td>Because discount rates are appropriate for internal valuation</td>
</tr>
<tr>
<td>No</td>
<td>Generally it is the technology that is valuable</td>
</tr>
<tr>
<td></td>
<td>An identifiable income stream is more important</td>
</tr>
<tr>
<td></td>
<td>It is the quality and robustness of IP that is important</td>
</tr>
<tr>
<td></td>
<td>We compare two finites – the NPV. The value is the value</td>
</tr>
<tr>
<td></td>
<td>The IP asset is far more important than the industry sector, although the popularity/growth of the sector will influence the availability of investment.</td>
</tr>
</tbody>
</table>
Financing of Welsh SMEs and the Commodification of IP Rights

Questionnaire respondents were also asked to supply information on the effect a licensing deal may have on the value of an intellectual property asset. As shown in Figure 41, 96% of respondents reported that a licensing deal is important to the valuation of an IP right. However, the fact that the licensing deal was located outside the UK was deemed to be largely unimportant for the purposes of valuation (Figure 42).

Figure 41

Are Licence Deals Important to the Valuation of IPR

96%

4%

Yes
No

Figure 42

For Purposes of Valuation, How Important is it That Licence Located Outside UK

Very Important
Important
Unimportant
Missing Value

0
2
4
6
8
10
12
14
16
Financing of Welsh SMEs and the Commodification of IP Rights

As to what was considered to be an important element in a licensing deal, it can be seen from Figure 43 below that important elements ranged from the quality of the licensee to the price, scope and term of the licence.

Figure 43

<table>
<thead>
<tr>
<th>Important Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of licensee</td>
</tr>
<tr>
<td>Strong, protectable IP</td>
</tr>
<tr>
<td>Uniqueness</td>
</tr>
<tr>
<td>Contractual obligations</td>
</tr>
<tr>
<td>Fee structure</td>
</tr>
<tr>
<td>Clarity of income stream</td>
</tr>
<tr>
<td>Exploiter of IPR has the resources to the income stream</td>
</tr>
<tr>
<td>Duration of licence and enforceability</td>
</tr>
<tr>
<td>Territory and licensor's ability to exploit the market</td>
</tr>
<tr>
<td>Term of deal, ability to exploit, ability to pay</td>
</tr>
<tr>
<td>Price, scope and term</td>
</tr>
<tr>
<td>Certainty in rights created, rights reserved &amp; consideration due</td>
</tr>
<tr>
<td>Security of ownership, update rights, clear limitations eg territorial, financial risk v reward</td>
</tr>
<tr>
<td>Audit, territory, minimum royalties and financial structure, term</td>
</tr>
<tr>
<td>Scope &amp; extent of licence, territory, exclusions, royalties &amp; term</td>
</tr>
<tr>
<td>Depends from whose point of view you look</td>
</tr>
<tr>
<td>Potential sales</td>
</tr>
<tr>
<td>Quality control; protection of IP; due diligence of licensee; payment and auditing provisions.</td>
</tr>
</tbody>
</table>

Respondents were asked to provide information on the due diligence checks undertaken when considering taking a security interest in IP assets. As can be seen from Figure 44, the due-diligence checks undertaken varied from a simple register / title check, to full due-diligence.

Figure 44

<table>
<thead>
<tr>
<th>Due Diligence Undertaken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depends on client wishes, but most do not want due-diligence. Will offer to review validity, will always check subsistence and proprietorship</td>
</tr>
<tr>
<td>This is usually at our clients discretion</td>
</tr>
<tr>
<td>Depends upon what asset is</td>
</tr>
<tr>
<td>Refer to a lawyer</td>
</tr>
<tr>
<td>Check register / title</td>
</tr>
<tr>
<td>Title investigation as a minimum</td>
</tr>
<tr>
<td>Proof of legal entitlement or at least entitlement to economic benefit</td>
</tr>
<tr>
<td>Title and sometimes validity</td>
</tr>
<tr>
<td>Check valid registration</td>
</tr>
<tr>
<td>Ownership, licences existence</td>
</tr>
<tr>
<td>Ownership and exploitation rights</td>
</tr>
<tr>
<td>Third party rights, IP ownership, Inventorship</td>
</tr>
<tr>
<td>Full proof of ownership and technical details</td>
</tr>
<tr>
<td>Check registration if applicable, trace ownership and potential challenges / infringements</td>
</tr>
<tr>
<td>Check registry and undertake internet search plus expert report</td>
</tr>
<tr>
<td>Ownership, registration, licensing, infringement, other security</td>
</tr>
<tr>
<td>Ownership, prior art, legal due diligence from patent lawyer</td>
</tr>
<tr>
<td>Full due-diligence</td>
</tr>
</tbody>
</table>
Financing of Welsh SMEs and the Commodification of IP Rights

Furthermore, questionnaire respondents were asked to provide information as to how long it would take to register a security interest in an IP asset in both the relevant IP register and the companies register. As can be seen in Figures 45 and 46, protracted experience was common in respect of registration in the specialist IPA register with some experiencing a time frame of 3 months to register a security interest.

Figure 45

**Time Taken to Register Security Interest in IPA in Relevant IP Register**

- 43%: 1 month
- 13%: Couple of weeks
- 8%: 3 months
- 8%: Should be reg. immediately
- 4%: Fairly quick
- 4%: Varies
- 4%: Too long
- 4%: Missing Value

Figure 46

**Time Taken to Register Security Interest in IPA in Companies Register**

- 34%: Very quick, a few days
- 8%: Not usual to check this
- 8%: 10 Days
- 9%: 10 - 20 days
- 9%: Up to 4 weeks
- 4%: Should be reg. immediately
- 4%: Too long
- 4%: Missing
- 4%: Missing Value
Financing of Welsh SMEs and the Commodification of IP Rights

When asked whether the lack of a grace period between applying for the registration of a security interest and the actual registration of interest was problematical, 62% of respondents reported that it was not (Figure 47). However, those who reportedly found the lack of a grace period to be problematical, contended that the difficulties arose as “parties are in limbo until registration is complete” and that “knowledge is vulnerable”.

Figure 47

![Pie chart showing 62%认为没有恩典期是没问题的, 21%认为有问题, 17%不知道。](image)

So as to further investigate factors that may impinge upon the value of an IP asset, all questionnaire respondents were asked to identify whether there were any enforcement issues that may affect the value of an IP right. As demonstrated by Figure 48, 54% of respondents believed there to be enforcement problems that may affect the value of intellectual property rights.

Figure 48

![Pie chart showing 54%认为有执法问题可能影响其价值, 35%认为没有问题, 11%不知道。](image)

Regardless of whether they had sought to value an IPR
When questioned as to the nature of these enforcement difficulties, responses fell into four categories: cost; policing; the impact of enforcement proceedings; and legal and practical issues.

Figure 49

<table>
<thead>
<tr>
<th>Category of Issue</th>
<th>Enforcement Issue Identified</th>
</tr>
</thead>
</table>
| Cost                      | Expense  
Is the defendant worth suing?  
IPR is intangible and so hard to value. It needs work and investment to maintain value, otherwise there will be nothing of worth to enforce  
Cost of enforcement and uncertainty as to the validity of IPR depress its value  
Without resources the enforcement of IP is impossible. This badly affects start-ups  
Non-enforcement devalues an IP right as an asset, enforcement is time consuming and can be expensive. Companies (particularly those in a tight financial position) may be reluctant to expend the effort and money on enforcement. Banks or other secured lenders are not in the business of enforcement |
| Policing                  | Some IPR difficult to police and enforce  
This area is a legal minefield, often at the cutting edge of technology. Therefore there is a natural resistance to enforcement |
| Impact of enforcement proceedings | Enforcement proceedings will devalue IPR if enforcement procedure is unsuccessful  
Ease of enforcement affects value of IPR, so registered rights are more valuable than non-registered rights  
Inability to enforce IPR casts doubt over the right to economic benefit and this devalues the IPA  
In an enforcement situation, it may not be possible to extract value from IPA |
| Legal & Practical         | Difficulty in establishing true ownership, either by identity or location  
Poorly drafted contracts sometimes result in employee owning the IP and not the company  
Practical ownership can override legal entitlement  
Lack of due-diligence causes a problem  
IP has no physical presence  
IP may be superseded by someone else  
It is often more difficult to enforce than a similar real asset  
Potential problem of the user of an IP right having assigned its rights to the security holder and the two disagreeing on whether to enforce or defend the IP rights.  
There will not be any problems provided the right is properly registered / recorded and all transactions are documented |
THE SURVEY RESULTS

IP ASSETS AND THE DILEMMA OF VALUATION

As set out in Figures 4 to 10, the ownership of IP rights is by no means typical amongst Welsh businesses. Only 58% of business respondents reportedly owned IP rights. This is surprising because the survey focused on firms which fell within the category of being technologically dynamic. The data survey, which included members of IP Wales and also production firms listed on the Kompass Data Base, that is “production” firms in Wales defined to include manufacturing, extraction and food and timber processing, showed that only 7.17% of those firms were patent active.

Turning to the issue of valuation of IP rights, the responses were wide-ranging. As can be seen in Figure 9, 57% of respondents were able to provide a quantitative answer, 25% of respondents stated that they did not know the value of their assets and 16% provided a qualitative answer. The value placed upon the assets, as seen in Figure 6, ranged from none to in excess of ten million pounds. It would appear that 73% of business respondents were able to place some monetary value upon their assets, even if it was to state that they were valueless. Given such a response, it may be reasonable to expect there to be a mechanism by which intellectual property assets are quantitatively and objectively valued. However, as can be seen in Figures 7 to 9, only 9% of businesses employed a formal mechanism of valuation and no correlation between the value of the asset and the likelihood of robust valuation was demonstrated. Thus, whether a business reported a minimal value or a significant value for their IP asset, this was based upon a subjective measurement as opposed to a formal system of analysis.

When questioned as to their valuation experience, only 52% of legal practitioners and accountants had reportedly sought to value an IP asset. Moreover, a typical and robust method of valuation could not be found, despite the identification of the main components in the process of valuation, namely competition goodwill, industrial sector and the existence of a licensing deal. Whilst 83% reportedly employed experts to value an asset, 71% of practitioners who had themselves sought to value IP reportedly undertook such on an “ad hoc” basis. Indeed, only 58% of practitioner respondents reportedly employed a set of criteria for the valuation process, 42% of respondents “continuously reviewed” the value of the IP asset and 71% viewed their methodology as being “subjective”. As illustrated by Figure 35, 87% perceived the valuation process to be problematical, with the difficulties noted ranging from subjectivity, practical difficulties, to economic difficulties.

IP AS COLLATERAL

The perception by SME respondents is that IP can be a helpful factor in the provision of finance, both in terms of the lending decision and the general lending terms. The survey group made up of technologically-based Welsh SMEs had not developed sufficiently within

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24 62% owned trade marks, 57% owned copyright, 51% owned patents and 26% held industrial design rights. See figures 3 – 8.
26 See Figure 30.
27 See Figures 39, 41-43.
28 These include Valuation Consulting, Parmentier Arthur, Computer Associates, KPMG, Eversheds, sector specialists, patent agents and specialist accountants. See Figure 31.
29 See Figure 32.
30 Ibid.
31 See Figure 34.
32 See Figure 33.
33 See Figure 36.
34 See Figures 11-12.
the business cycle to require equity finance, although a significant proportion would consider this if it became necessary. As illustrated in Figures 15–17, those businesses that own intellectual property assets were statistically more likely to consider diluting ownership in the business so as to obtain a capital injection, than those businesses that do not retain such intellectual property rights. Furthermore, 60% of IP owning businesses reported that they would consider using their assets as security for finance. However as shown in Figure 18, only 9% of IP owning questionnaire respondents in Wales had reportedly undertaken such finance. Business respondents largely reported that it had not been necessary to use their IP as security, or that they had never considered the possibility, or that the IP asset was seen to be of little value. In contrast, the survey result from the lawyers and accountants, points in Figure 29 to the fact that the companies offering IP as security were SMEs. This is also confirmed by the experience of financiers and venture capitalists who stated that their typical lending and investment profile was SMEs. It is noteworthy that the Law Commission has recently referred to the importance of security to SMEs for the purpose of raising finance which “may be vital to their survival and growth.”

It would appear that many Welsh SMEs do not grow from the early stages of development and that in many instances they fail to commercialise their IP. This observation is confirmed by a comparative analysis of IP within the Welsh Production Sector. During the period 1983-2001, of the 478 patents published in Wales, 97 failed, a further 93 were granted but have subsequently lapsed for failure to pay renewal fees and 288 remain alive. What is significant is that a disproportionately large share of Welsh patent publications is accounted for by firms having a single publication – over half of the patent active firms in Wales had published only one patent over the period 1993-2001. The essential critical mass required to commercialise patent portfolios among SMEs in Wales is thereby severely compromised. There may be policy implications here for the investment strategy of Finance Wales which, as a subsidiary of the Welsh Development Agency, aims to provide a range of financial support to Welsh businesses, including equity investments and loans. The business support bank’s equity investment record is catalogued in its latest full year of accounts to the end of March 2004. The investments made were mainly first round equity investments and not the higher-risk seed-funding arrangements usually made into pre-revenue companies looking to raise finance to invest in new technologies.

Insofar as the factors influencing the decision to accept IP as collateral for finance are concerned, the financiers surveyed indicated that equity, established technology and a proven ability to exploit their IP were “very important”. Moreover, the quality of the IP asset, the commercialisation potential of the IP and the quality/ability of the management were “very important”. As to how the quality and ability of the management were measured, commercial awareness, experience of their particular sector and business planning were deemed to be critical. The size of the company was significant in the lending decision and tax considerations were of some importance. Where a borrower proposed to licence their IP, the identity of the licensor was considered to be important. The terms of the licensing deal were also significant, namely the duration of the licence, the licensing fee, the way in which the licensor intended to exploit the licence and the security provided.

The most popular method of taking an interest in an IP asset by way of security or otherwise was by assignment of the IP right or by charge. These were deemed to be “fairly easy” to
create by 52% and 48% of respondents respectively and “fairly easy” to enforce by 44% and 26% respectively. This would seem to suggest that the method of security employed is determined by the ease of creation and the ease of enforcement should it become necessary. In respect of the IP assets themselves, the patent was considered to be the easiest form of IP to take security, largely due to its registration system. Due diligence was a significant factor in the process of taking a security interest in IP assets and this varied from a simple check of the relevant IP register to full due diligence, including full proof of ownership and potential challenges/infringements, as well as technical details. However, problems were reported in terms of the length of time taken to register a security interest with the specialist IP register and in some cases this was reported to have taken up to 3 months. In addition, the lack of a grace period between applying for the registration of a security interest and the actual registration of a charge was in some cases considered to be problematic. Further, when questioned as to whether there are enforcement difficulties which may affect the value of an IP asset, 54% of practitioner respondents stated that there were, identifying cost, policing, impact of enforcement proceedings and legal and practical difficulties as being factors which affect value.

45 See Figures 25-26. It should be noted that when questioned as to the financial mechanisms / instruments used in financing arrangements based upon IP, financiers also indicated the use of the charge and assignment of IP right, together with equity funding and the mortgage.
46 See Figures 36-38.
47 See Figure 44.
48 See Figure 45.
49 See Figures 46-47.
50 See Figures 48-49.
4. LEGISLATIVE INTERVENTION: REFORM OF SECURITY INTERESTS LAW AND INTELLECTUAL PROPERTY ASSETS

THE SECURITY LEGAL REGIME IN ENGLAND AND WALES: THE BACKGROUND CONTEXT

Under the common law, the growth of non-possessory security interests in chattels was dealt a severe blow in Twyne's case. In England it was the intervention of equity which provided the framework for the development of a non-possessory security interests regime and in Holroyd v Marshall the House of Lords provided the legal framework to utilise future property for present credit. This was an important development because the demands for credit in the wake of the industrial revolution often meant that the only assets a debtor had at its disposal was stock-in-trade.

During the course of the nineteenth century the law's recognition of after-acquired property was confused by the bills of sale legislation 1854-1891. However, the Bills of Sale Act (1878) Amendment Act 1882 only inhibited creditors taking security in future goods from individual borrowers and this approach was not extended in the corporate sphere because section 17 of the 1882 Act excludes its application to debentures issued by companies. Further, the reputed ownership clause was never applied to companies and the requirement of identification has never been an onerous one. The combined effects of all these factors in

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1 The common law in its treatment of security focuses upon two broad issues. The first issue revolves around the extent of its recognition of security interests beyond the unique monitoring function facilitated by the creditor's possession of an asset. Second, insofar as a non-possessory rule gives the third party certainty, this is purchased at the cost of recognising security interests through the division of ownership. In bridging the gap between these two extremes, the centrality of information or notice is emphasised. The third party could gather the information himself but obviously a legal system which sanctions the least notice of a division of ownership rights increases the costs of a third party creditor in determining the true legal position. Historically, the policy of fostering secured credit is relatively new in the common law tradition. See Baird “Notice Filing and the Problems of Ostensible Ownership” (1983) 12 J of Legal Studies 53.

2 76 ER 809 (Star Chamber 601), The Statute of Elizabeth (13 Eliz C S (1570)) was used to convict Twyne of fraud for leaving goods with Pierce, the debtor. The Statute of Elizabeth dealt only with the situation where an owner was transferring his property. It did not cover the situation where a buyer or other person received possession but the ownership had been retained. The original “reputed ownership” statute was part of the Bankruptcy Act 1623 (21 Jac 1 C 19).

3 (1862) 10 HLC 191.

4 Although equity follows the law in that there cannot be a valid assignment of future property, nevertheless, where consideration has been given, equity will treat an assignment of future property as a contract to assign the property. By this method, equity will compel performance of the contract so that the beneficial interest passes to the assignee immediately upon the acquisition of the property by the assignor. The retroactive effect of attachment greatly increases the value of the security interest, as seen in Re Lind [1915] 2 CL 345. Thus, the after-acquired property clause will bind the debtor's trustee in bankruptcy as regards monies or other assets falling into possession after the commencement of the bankruptcy, unless the monies or assets were earned through the activities of the trustee in bankruptcy himself.

5 In some Commonwealth jurisdictions such as Australia and New Zealand, the practice of leasing land holdings from the Crown, including clauses prohibiting the use of land as security for loans, meant that it was only stock-in-trade that farmers could use as security.


7 In Tailby v Official Receiver (1883) 13 App Cas 523, it was held that it is enough that the after-acquired property falls within general descriptive words.
Financing of Welsh SMEs and the Commodification of IP Rights

English law have allowed the potential of the equitable doctrine in *Holroyd v Marshall* to be fully realised in the corporate sphere through the advent of the floating charge.

By the end of the nineteenth century, England could be described as the most credit prone country in the world. The emergence of the floating charge provided debenture holders with a device which allows future property to be charged, thereby providing a windfall of diminishing risk of default because as each new asset is acquired, more security builds up. As the Cork Committee remarked: "The matter for wonder is that such a device should ever have been invented by a Court of Equity". At the same time, in the USA, the pre-Uniform Commercial Code law (UCC) generally treated unfavourably the after-acquired property security interest. Thus, the US Supreme Court in *Benedict v Ratner* invalidated an assignment of accounts as fraudulent because the arrangement allowed the debtor to collect the accounts and use the proceeds as it saw fit. In effect, this rule prevented the development of the floating charge in the US.

The pre-UCC secured transactions law in the US became highly complex. To deal with this legal context, and as part of the uniform law movement in the US, the UCC and Article 9 of the Code emerged. In particular, the architects of Article 9 were concerned to provide a

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8 *Loc cit fn 3.*
9 *Re Panama, New Zealand and Australia Royal Mail Co (1870) 5 Ch App 318; Re Yorkshire Woolcombers Association Ltd [1903] 2 Ch 284, affirmed sub nom Illingworth v Houldsworth [1904] A C 355.*
12 This is expressed in Official Comment 2 to Article 9.204 as follows: “The widespread nineteenth century prejudice against the floating charge was based on a feeling, often inarticulate in the opinion, that a commercial borrower should not be allowed to encumber all his assets present and future, and that for the protection not only of the borrower but of his other creditors, a cushion of free assets should be preserved”. The after-acquired property clause in pre-UCC law was therefore subject to suspicion. Many States required a further act to take place if an after-acquired property clause was to be valid against creditors and this act usually involved the execution and filing of a supplemental chattel mortgage. See Coogan “Article 9 of the Uniform Commercial Code: Priorities Among Secured Creditors and the Floating Lien” (1959) 72 Harv LR 838. However, a mortgage for future advances was generally given and such arrangements were valid at least between the parties themselves. One reason given for this divergence in treatment is that future advance claims were not couched as after-acquired property under a chattel mortgage which had a long history of suspicion as being a quasi-fraudulent device, but rather the claim was made “under a real property in the familiar context of a construction loan, where its utility was obvious and indisputable”. See Gilmore, *Security Interests in Personal Property II* (1965) 35:3 at p922.
13 *268 US 353 (1925).*
14 The *Benedict* case was criticised on the basis that the rule developed there seriously hampered working capital loans. See, for example, Skilton, “The Factor’s Lien on Merchandise” [1955] *Wis LR* 356.
16 See Gilmore, *Security Interests in Personal Property I* (1965) at p25: “The state of almost intolerable complexity which our security law reached by the end of the [nineteenth] century was not matched in England ... English law and American Law in this area split apart in the course of the century”. The US law of personal property security transactions prior to the drafting of the UCC has been described as resembling “the obscure wood in which Dante once discovered the gates of hell”. See Coogan, “Article 9 – An Agenda for the next Decade” (1978) 87 *Yale LJ* 1012.
17 The two sponsoring bodies of the UCC continue to be the American Law Institute and the National Conference of Commissioners on Uniform State Laws. The basis of the UCC project was the perceived need to create a federal sales act. See Llewellyn, “The Needed Federal Sales Act” (1940) 26 *Virginia LR* 558. The vision of Llewellyn was to craft a Uniform Commercial Code by building on the existing foundation of uniform law in the US, notably, the Uniform Warehouse Receipts Act, the Uniform Stock Transfer Act, the Uniform Bills of Lading
rational curative for the perceived difficulties presented by a disparate common law through its establishment as a source of personal property security law and not merely a collective statement of legal standards. More than any other part of the UCC, Article 9 represented new law in the sense that its aim was to provide a "simple and unified structure" to secured transactions. The draftsmen of Article 9 were concerned to expand the pool of assets available for security interests to attach through the recognition of the floating lien, accompanied by a first to file priority rule and a notice filing mechanism. In this regard, it is doubtful whether any previous security statute has so warmly embraced the after-acquired property interest.

The Article 9-type filing system promotes information exchange and acts as a "bulletin board" by providing credit information to interested parties. This is achieved through the search mechanism which reveals potential interests of prior secured parties so as to provoke inquiry. Without access to the filed financing statement, the potential creditor would only be able to rely on the representation of the debtor. At the same time, the first-to-file priority rule...
Financing of Welsh SMEs and the Commodification of IP Rights

provides the necessary incentive to use the filing system because it allows the creditor to stake a claim. The system is characterised by “behavioural agnosticism”,24 in that a creditor is not prevented from asserting priority merely because it had knowledge of the debtor’s prior commitments to other creditors and could presumably take cost-minimising precautions.25 In this sense, Article 9 is a pure “race statute” in which a subsequent creditor with notice will nonetheless prevail in verifying its claim based upon the fact of fixing priority by first public filing.

There has been a growing international recognition of the standing of Article 9.26 The most recent revision of Article 9,27 which was implemented in 2001,28 represents an expanded restatement of the law of personal property security. This is a significant development because whilst historically, Article 9 has influenced the debate over the reform of personal property security interests in England29 there is a renewed impetus30 to the question of the appropriateness of the revised Article 9 and related personal property security legislation as a model for reform in England and Wales.31

the filing establishes the date for perfection of the security interest so that it frustrates an attempt to usurp priorities. See Alces ibid at p702.

25 Whilst contracting creditors may be aware of the competing priority claimants by virtue of the Article 9 filing procedures, involuntary creditors such as tort claimants are not protected.
27 There is a Permanent Editorial Board of the UCC which includes representatives from the NCCUSL and ALI which meets twice a year to deal with problems of interpretation of the UCC and makes recommendations for revision to the NCCUSL and ALI. A major revision of the UCC was completed in 1972.
28 The revised Article 9 is referred to as R9. It came into force in July 2001 and has been adopted in all the states in the US, including Louisiana. The text can be found at http://www.accusl.org.
29 In 1971, the proposed Lending and Security Act, suggested by the Crowther Committee Report On Consumer Credit Cmd 4596 (1971), leaned very heavily on Article 9. In addition, the Scottish Law Commission’s Working Paper on Security over Moveable Property (1986), the Halliday Report, as well as the DTI Paper prepared by Professor Diamond, A Review of Security Interests in Property (1989) drew on the Crowther Report. The Diamond Report recommended that the law should be reformed by the introduction of a new law of security and the creation of a notice-filing system. The Halliday Report, whilst recommending the establishment of a register of security interests with notice filing, was more selective in its drawing on the Crowther Report and, in particular, avoided recommendations that would introduce alien concepts into Scots law. Similar consideration can be seen in the debate in Canada in respect of the application of personal property security legislation modelled on Article 9 and adopted in the Anglophonic Canadian Provinces to Quebec. A fully online personal property security regime has been introduced in other Commonwealth countries, notably the New Zealand Personal Property Securities Act 1999. The Australian Law Commission are also consulting widely in respect of introducing a similar system. See Goldring, “Commentary On Chapters by Professor Ralph Simmonds and Tony Duggan” in Securities over Personalty (1994) Ed Gillooly pp298-299.
30 The Company Law Review Steering Group, in its final report, Modern Company Law for a Competitive Economy (July 2001) provisionally concluded that the present company charges registration system should be replaced with the notice filing model adopted in Article 9. This conclusion was further endorsed in the Law Commission Consultation Paper, Registration of Security Interests: Company Charges and Property other than Land No 164 (2002).
31 In particular, the Law Commission Consultation Paper, Registration of Security Interests: Company Charges and Property other than Land ibid, in recommending the introduction of a new law on security interests draws heavily on Article 9 of the UCC and similar personal property security interests legal regimes. This is also the case in respect of the more recent Law Commission Consultation Report No 176, Company Security Interests (2004).
THE REVISION OF ARTICLE NINE UNIFORM COMMERCIAL CODE AND THE REFORM PROCESS IN ENGLAND AND WALES

As discussed, the policy of the original Article 9 was enhanced in the revision process which was completed in 2001. Article 9 has now been comprehensively reorganised, rewritten, renumbered and is an expanded restatement of the US law of personal property security. Not surprisingly, the new Article 9 (R9) was drafted by people who were molded by the old Article 9 and indeed they took the concepts further by making it easier for financiers to create and perfect security interests in the various contexts in which secured financing is used.

In the revision process of Article 9, the question of whether secured credit is, in effect, efficient had little impact on the debate for reform. In large measure, this was because the whole efficiency debate is presented as a puzzle as distinct from a demonstration of inefficiency. In any event, there are limitations in the efficiency debate, not least because it fails to address considerations of fairness and distribution on insolvency. At first sight the recognition of security interests appears to be inconsistent with the pari passu principle of distribution, in practice, however, all this means is that creditors within a particular class must be treated equally within the particular distribution regime. Distributional consequences of a secured credit regime are the major determinant in the setting of sound policy.

Attempts made to make significant amendments in the reform process to Article 9 were unsuccessful. The new Article 9 (R9) facilitates security interests in deposit accounts, expands the financier’s automatic claims to proceeds of collateral, permits filing against a corporate debtor in its state of incorporation, even though the collateral assets are located in

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32 The Working Study Group consisted of 3 legal academics and 13 lawyers, the majority being senior counsel for asset financiers.
33 See Schwartz and Scott, “The Political Economy of Private Legislatures” (1995) 143 University of Pennsylvania LR 595 at p640: “The privileged status of hands-on working knowledge of Article 9 rules thus gave the in-house counsel and the private commercial lawyers the power to determine what the Study Group did. Efforts by the academic members – that is, the reformers – to place significant reform proposals on the agenda were uniformly unsuccessful”.
34 Compare Scott, “The Truth About Secured Financing” (1997) 82 Cornell LR 1436 at p1437: “[T]he continuing publication of succeeding generations of articles exploring the topic has yielded precious little in the way of an emerging scholarly consensus about the nature and function of secured credit. Put simply, we still do not have a theory of finance that explains why firms sometimes (but now always) issue secured debt rather than unsecured debt or equity. Moreover (and because of the lack of any plausible general theory), we lack any persuasive empirical data to predict whether, in a particular case, a later security-financed project will generate sufficient returns to offset any reduction in the value (that is the bankruptcy share) of prior unsecured claims”.
36 The reference here is to preferential claims on insolvency. In England, under Schedule 6 of the Insolvency Act 1986, these fell into two main categories, namely, tax and employee claims. The Enterprise Act 2002 abolishes Crown Preference so that s251 deletes from the preferential debts list debts due to the Inland Revenue, debts due to Customs and Excise and also social security contributions. Employee preference remains the justification being their inequality of bargaining power and consequently they may lose out in their employer’s insolvency.
37 This matter was not considered in the Law Commission Consultation Paper No 164 op cit fn 34, nor the Law Commission Paper No 176 op cit fn 31.
38 Professor Warren proposed to the Council of the American Law Institute in 1996 that 20 per cent of the collateral proceeds be reserved for unsecured creditors in order to redress the secured versus unsecured credit balance. This was rejected by the Drafting Committee of Article 9. See McDonnell, “Is Revised Article 9 A Little Greedy?” (1999) 104 Commercial Law Journal 241.
other jurisdictions, and also assists the securitization of rights to payment.\textsuperscript{39} When consumer groups pressed for reform of Article 9, the eventual compromise between consumer groups on the one hand and industry representatives on the other was to leave matters where they were in terms of the original Article 9.\textsuperscript{40}

As we have seen, R9 facilitates the taking of security and has expanded the pool of assets available on collateral, for example, by making it possible for formerly non-assignable rights\textsuperscript{41} to be the subject of attachment and perfection, thereby facilitating credit. In this regard, R9 will have material distributional effects in bankruptcy, that is, secured claims will reach more of the assets in bankruptcy and the pool of free, unencumbered assets will shrink.\textsuperscript{42} To deal with this distributional balance problem, it was suggested that there should be a carve out of the debtor’s assets requiring the trustee in bankruptcy to set aside 20% of the proceeds of sale\textsuperscript{43} of the collateral to pay the claim of unsecured creditors.\textsuperscript{44} Perhaps reflecting the domination of the banking interest group element in the private legislative process\textsuperscript{45} it is significant that this proposal was not examined closely by the reviewers as part of the revision process of Article 9.\textsuperscript{46}

The objections to the carve out proposals in the US were made on the basis that they constituted a partial subordination of the secured debt regime, creating an economic disincentive that would cause many potential lenders to refuse to make loans to debtors, thereby restricting the pool of credit available.\textsuperscript{47} Such an approach is not sustainable because secured credit in the US already operates in a world of partial priority.\textsuperscript{48}

\textsuperscript{39} This is not to say that Article 9 is a wholly complete Code. Notably missing are intellectual property rights such as patents and copyrights which are governed by federal law. In addition, whilst bankruptcy cases will probably involve Article 9 issues, the substance of bankruptcy law is in the 1978 Bankruptcy Code. See Harris and Mooney “Revised Article 9 and the Bankruptcy Code: Policy and Impact” (2001) 9 Amer Bank Inst LR 85.

\textsuperscript{40} Whilst consumers are affected by some of Article 9’s provisions, in particular the remedial regime, the difficulty was effective representation of their interests. Consumers suffered from agency costs in their legal representation or alternatively had to rely on self-appointed agents to guard their interest. See generally Janger “Predicting When the Uniform Law Process Will Fail” (1998) 83 Iowa LR 569 referring to some early success by the US Consumers Union “in softening the effect of Article 9’s remedial scheme on consumers” but this did not carry through to the final version.

\textsuperscript{41} Article 9:408.


\textsuperscript{43} This proposal was modelled on Bebchuck and Fried, “The Uneasy Case for the Priority of Secured Claims in Bankruptcy” (1996) 105 Yale LJ 857.

\textsuperscript{44} It has been argued that the R9 process was a “headlong rush to enlarge every scintilla of priority for secured creditors”. See Warren, “Making Policy with Imperfect Information: The Article 9 Full Priority Debate” (1997) 82 Cornell LR 1373.

\textsuperscript{45} See above. Banks and other US financial institutions continuously pressed for more effective and comprehensive security rights rather than weaker ones. The R9 process has been described as a “secured creditors’ grab” entrenching wealth in the hands of banks, insurance companies and finance companies. See Klee, “Barbarians at the Trough: Riposte in Defense of the Warren Carve-Out Proposal” (1997) 82 Cornell LR 1466.

\textsuperscript{46} See Janger op cit fn 40.

\textsuperscript{47} See Harris and Mooney, “Measuring the Social Costs and Benefits and Identifying the Victims of Subordinating Security Interests in Bankruptcy” (1998) 82 Cornell LR 1349 at p1357: “[T]he conventional wisdom in the credit markets supports our hypothesis that the contraction of credit is likely to be material, in as much as subordination of a security interest would diminish the collateral value on which a secured lender could rely”. Compare the approach in England where the Cork Committee Report on Insolvency Law and Practice (1982) Cmdnd 8558 recommended, as part of a package of reform in bankruptcy law, that a 10 per cent of floating charge realisations should be set aside for distribution to unsecured creditors. See below. The Cork Committee at para 1535 specifically rejected the proposition that a diminution in credit would occur.

\textsuperscript{48} See Bebchuck and Fried op cit fn 43.
Bankruptcy Code, most notably Chapter 11 which deals with corporate reorganisation proceedings, restrictions are imposed on the enforcement of security interests, potentially compromising their value because over time the value of the collateral may fluctuate. The voluntary petition filed by the corporate debtor in corporate reorganisation proceedings brings about a moratorium on enforcement proceedings against both the debtor and its property and allows the company board to remain in control during the reorganisation.

In 1982, the Cork Committee Report on Insolvency Law and Practice in England recommended that 10 per cent of floating charge realisation should be set aside for distribution to unsecured creditors. This proposal which effectively reduced some of the priority that secured creditors enjoyed, was opposed by lenders and the Insolvency Bill that resulted from the Cork Report did not include this provision. Twenty years later, the Enterprise Act 2002 provides that a percentage of floating charge realisation should be set aside for the benefit of unsecured creditors which operates once claims secured by a fixed charge or preferential debts in respect of the same property have been discharged. This is part of a series of measures aimed at balancing the respective rights of secured and unsecured creditors, the thrust of the Act being to redress the balance of bankruptcy law in England which was considered to be pro-creditor, especially in its use of administrative receivership proceedings. The fixed fraction benefits all unsecured creditors. Such an

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50 In this sense, the US Bankruptcy Code has been described as being “pro-debtor”. See DTI Review of Company Rescue and Business Reconstruction Mechanism (2000) at p38-41.
51 Cmnd 8558. Two lines of reasoning was evident amongst the protagonists for this approach: First, that the fund would benefit economically weak unsecured creditors; second, the fund could provide insolvency practitioners with a “fighting fund” to recover misdirected monies, either because of improper preference or wrongful trading actions. For a discussion see Milman “The 10 Per Cent Fund” [1999] Insol L 47.
52 Banks saw this measure as interfering with their contractual freedom and property rights and that the scope and size of the percentage fund could increase over time.
53 The then Conservative Government considered that the proposal would hinder business in tying up money in special trust accounts that would require policing.
54 Section 252 which inserts a new s176A into the Insolvency Act 1986. The percentage is set down by statutory instrument. Holders of existing floating charges are not subject to the requirement to make a proportion of their recoveries available for unsecured creditors. They enjoy a considerable short-term benefit in that they will enjoy an immediate benefit from the abolition of Crown preference.
55 It is unlikely that the restriction on the floating charge priority can be construed as a breach of the provision of the Human Rights Act 1998 on the basis of a breach of Article 1 of the Convention that it unjustifiably interferes with the property rights of secured creditors since the provision itself is designed to protect the interests of third parties and legislatures are given a wide discretion in determining public interest safeguards under the Convention. See McCormack op cit fn 35 at pp417-418.
56 The provision does not apply if the company’s net property is less than the prescribed minimum and the liquidator, administrator or receiver considers that the cost of making a distribution to unsecured creditors is disproportionate when compared with the benefits.
57 For example, the abolition of the super-lightweight charge by creditors. This was a technical device to prevent the appointment of an administrator who, under s9(3) Insolvency Act 1986, could not be appointed if the administrative receiver was in place without his consent. See generally, DTI/Treasury Working Group Report, A Review of Company Rescue and Business Reconstruction Mechanisms (1999). A receiver did not have a duty to maximise the return on the sale of assets, nor a duty to minimise the costs incurred. For a discussion see Ziegel, “The Privately Appointed Receiver and the Enforcement of Security Interests: Anomaly or Superior Solution?” in Ziegel (Ed) Current Developments in International and Comparative Insolvency Law” (1994) 459.
58 See above. The Enterprise Act abolishes administrative receivership (ss248-250 and Schedule 16) but still allows a floating charge-holder to make an out-of-court appointment of an administrator. The administrator has wider rescue duties than the old-style administrative
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approach is in stark contrast to that seen under Article 9 with its statutory bias towards secured creditors. Curiously, the DTI which sponsored the Enterprise Bill did not consult with the Law Commission on this approach, even though the Law Commission had begun its work on the reform of company charges and security interests law.  

The new emphasis of administration under the Enterprise Act 2002 is upon rescuing the company as a going concern. The theory underlying this is the concept of the “going concern surplus”, that is, preserving the value of a firm which is more than the liquidation value of its discrete assets. In practice, firms in financial distress are unlikely to have a substantial going-concern surplus because most firms do not depend upon assets that are custom-made for its operation. However, this may be significant in the context of firms with intangible assets which are firm-specific, such as know-how, as part of the knowledge capital of a firm and its IP assets. Even so, the legislation does not require the administrator to rescue the firm where the creditor’s interests dictate a maximization of realisation strategy.

Many SMEs lack the capital structure that makes a law of corporate reorganisation at all relevant, that is, they will not have institutional debt. Thus, “start up” companies will rely largely upon equity investments and loans from insiders, such as the entrepreneur and his family, and most financing comes from venture capital as the enterprise progresses. Venture receiver. See Schedule 16, para 3(1). Even so, a careful balance is maintained and under the new regime a secured lender still retains a considerable amount of leverage over the debtor in the measure of control the secured creditor has in realising the assets of financially distressed firms through out-of-court enforcement of security. Timing the sale of secured assets is important from the perspective of increasing realisation assets.

Paragraph 3(3) makes it clear that the objective in (a) must be pursued, unless he thinks that either it is not “reasonably practicable” to achieve it or that pursuit of objective (b) would “achieve a better result for the company’s creditors as a whole”. Objective (c) may only be pursued if the administrator thinks that objectives (a) and (b) cannot reasonably practicably be achieved and in that event he must not “unnecessarily harm the interests of the creditors of the company as a whole”. At all times and whatever the objective of the administration, the administrator must perform his functions “in the interests of the company’s creditors as a whole” and as “quickly and efficiently as is reasonably practicable”.

Section 3(3) to Schedule B1 of the Insolvency Act 1986, loc cit fn 64, requires the administrator to attempt to achieve objective (a), when he thinks that this is not reasonably practicable or that the creditors as a whole would be better off under objective (b). The administrator’s conduct is open to challenge under paragraphs 74 and 75 of Schedule B1. See Frisby, “In Search of a Rescue Regime: The Enterprise Act 2002” (2004) 67 MLR 247 at pp261-267.
capital contracts specifically set out when (in terms of company performance) control shifts to the venture capitalists and typically the venture capitalists will select the management team and can change this when the firm does not meet specified targets. In the case of an SME “start up”, the expertise in the IP will rest with the entrepreneur who has set up the firm. Often, the only question for the outside investor is how long to continue to develop the product before giving up. It is at this point that the ability of the originator to raise capital on the security of its IP asset will be significant.

SECURED FINANCING OF IP ASSETS: THE REFORM OF ENGLISH AND WELSH LAW

In the discussion on the reform of English personal property security law,65 there has been little consideration of the impact of security interests upon IP law or the need for reform in this context.66 The logic of the establishment of a notice filing mechanism and the restatement of the security law in England and Wales would dictate the removal of the security requirements from the registrable intellectual property right regimes including the removal of the same provisions under the Companies Act 1985, and the replacement of these elements with a single security register such as that seen under Article 9 of the UCC.

There is a conceptual gulf between the current IP registers and an Article 9 regime. This can be conveniently illustrated in their respective treatment of filing and priority issues. Section 33(3) of the Patents Act 1977 (as amended) requires that certain types of transaction are registered, namely, an assignment of the patent or application for a patent; a mortgage of the patent or application or the grant of a security over it; the grant or assignment of a licence or sub-licence. Registration is necessary for two reasons: First, registration defeats earlier transactions that have not been registered (that is, it is proof of title); second, the subsequent proprietor of the patent or an exclusive licensee may be compromised in terms of a claim for damages or an account of profits for any infringement of an unregistered patent.67 As we have discussed,68 the current registration process is a form of transaction filing and contemplates individual discrete filings as additional IP assignments are made. Problems inevitably arise in respect of future interests.

An agreement to assign future inventions may be upheld when the agreement relates to improvements of named inventions. Under s33(3)(b) of the Patents Act 1977 (as amended) there is set down a procedure by which a notice of mortgage transaction can be recorded. This creates the possibility of a legal mortgage automatically arising under the grant of a patent. Section 91(2) of the Copyright, Designs and Patents Act 1988 provides for future interests in copyright by way of a legal mortgage, that is, which will or may come into existence in respect of a future work or class of work or on the occurrence of a future event. This will be important if a financier wishes to obtain on-going rights over future versions of, for example, software which is continuously upgraded or developed. Section 91(1) provides that pursuant to an agreement by a prospective owner to assign the future copyright wholly or partially to another person, then on coming into existence, the assignee or another person claiming under him would be entitled as against all other persons to require the copyright to be vested in him.69 In respect of registered design under the Registered Designs Act 1949 (as amended) there is no such provision for future designs and such a future interest can only be subject to a standard equitable mortgage or charge.

Under current legislation, there is no mechanism available to take security over after-acquired property such as pure future patents over which no registration application has been made. The underlying rationale for the present English position is that what is made public is the actual transaction in which the parties transferred an interest in IP. This is in stark contrast to

65 Op cit fn 29.
66 In Crowther, Halliday and the Diamond Reports, op cit fn 29, security interests in intellectual property law or the need for reform in this context was not considered.
67 Patents Act 1977, s68.
68 See above.
69 This allows, for example, a film company to offer mortgages over the future finished film, as well as other copyrights of a subsidiary kind which may be created during the often long process of making a film.
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an Article 9 type of system\textsuperscript{70} where a single financing statement is sufficient to perfect multiple security interests between the same debtor and creditor. The case for a notice filing mechanism that embraces IP rights and patents in particular is that financing tends to be ongoing and fluid, particularly in the case of small and medium sized enterprises.\textsuperscript{71} In the situation of ongoing finance, a transactional approach involves more expense than notice-filing because this will involve multiple registration at, for example, the specialist patent register. This expense falls on the borrower and decreases the value of patents for financing purposes. A direct advantage of moving to an Article 9 regime is that this will reduce transactional and searching costs, whilst the filing of security interests would become simpler and cheaper and less numerous because of the shift from transaction to notice filing. However, it would be necessary for the patent security interest to be registrable against the originator and not only the patent number because if there was a requirement for registration only against a patent number this could not be accommodated under an Article 9-type of regime with rules dealing with perfection of security interests in after-acquired property. A first-to-file system requiring recordation by all transferees would represent a major change from the present legal position. The current system makes notice outcomes determinative and in a contest between A and B, if A is earlier in point of time but has not registered his mortgage, B if he takes for value and without notice will prevail against A. This is unsatisfactory because a debtor may be fully expected to grant a security interest in the same property to several creditors: their concern is not that only one can assert a claim, but rather the order in which they can assert their claims. We need better rules for establishing priorities than those provided under the current statutory framework. Requiring recordation by all transferees through a first-to-file principle would accomplish this.

The Law Commission’s approach to maintain the specialist IP registers and that the determination of the validity of registered charges should be governed by the rules of that register,\textsuperscript{72} effectively undermines the benefits of an Article 9-type of regime in the context of IP assets. As a matter of logic, IP as a form of personal property\textsuperscript{73} should be governed by the new approach and indeed it is now clear\textsuperscript{74} that copyrights, trademarks and patents all fall specifically within the definition of “general intangibles” to which R9 provides the means for perfecting security interests.\textsuperscript{75} As we have discussed,\textsuperscript{76} under the specialist IP registers there

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\textsuperscript{70} See below.


\textsuperscript{73} See above.

\textsuperscript{74} UCC R9:106.

\textsuperscript{75} Problems arise in the USA in respect of the state and federal competency dilemma. The US Constitution grants exclusive power to the federal government in respect of patents and copyright (Article 1). Whilst the clause is silent about trademarks law, the jurisdiction has been extended to trademarks. R9:106 makes it clear that copyrights, trademarks and patents all come within the scope of Article 9, nevertheless, this does not mean that Article 9 applies to all forms of security interest and indeed Article 9:104(a) provides that it does not apply to a security interest “subject to any statute of the United States, to the extent that such statute governs the rights of parties to and third parties affected by transactions in particular types of property”. In the case of R9, the problems relate to the interface with federal law. See Montgomery, “Security Interests in Intellectual Property” (2001) 25 ALI-ABA Business Law Course Materials Journal 23. R9 did clarify the law in respect of licensing IP in the US, for example, upholding the licensor’s ability to prohibit or require consent for transfer by the licensee of the IP licence (R9:408). In addition, the changed UCC rule in respect of filing in the debtor’s state of incorporation rather than the location of the debtor’s business or assets is a more certain rule as to where to file (R9:301(1)). There have been several proposals to change the law in the USA to seek to resolve the federal versus state issue in IP security law matters. See Driza, “Perfecting Security Interests in Intellectual Property” (2000) 98 Illinois Bar Journal 162. Similarly, in Canada, there is an overlap between federal and provincial law. The Federal Patent Act (RSC 1985) requires the registration of patent assignments and exclusive patent licences. The Act is in conflict with provincial PPSAs because the Patent Act
are sketchy priority rules providing a stark contrast to the detailed, specific priority rules seen in R9. The retention of the specialist registers, whilst at the same time applying the new regime to copyright and some design rights,\textsuperscript{77} would in fact create a problem of two conceptually different filing systems with an uncertain inter-relationship. This brings into focus the extent to which the reform will actually promote dispute avoidance and dispute resolution because two different filing systems, one transaction and one notice filing, will co-exist. The simplicity and effectiveness of the priority rules is compromised by this approach. Bright-line rules promote early settlement because they make legal outcomes more predictable.\textsuperscript{78}

Notice filing fixes the priority point and provides the incentive to register. The registration schemes which exist under the IP statutes are mainly concerned with the creation of IP rights and not those security interests which arise by way of subsequent dealings with IP as assets. Actual knowledge binds a potential lender and since registration under the relevant statute is not compulsory in the sense that it provides the means of perfecting a security interest, the creation of a valid security interest over registered IP is technically difficult to achieve under the current law. Thus, interests which exist outside the register are binding upon a subsequent purchaser or lender who has notice of that interest, for example, in the case of an equitable interest, a notice made on the certificate of registration, the document creating the licence or the assignment. In the light of this, the process of due diligence for lenders regarding the security of registered IP assets can both be lengthy and costly in terms of the professional fees associated with the scrutiny of all the relevant documentation. This is particularly the case with legal interests which “are binding against the whole world” and are not always visible on the face of the register. For example, assignments of IP are rights which are created outside of the registration mechanism and will not therefore always be visible on the register. Extreme care is needed in the case of financiers who seek to have priority by way of a security interest in registered IP. By retaining the issue of actual notice within the priority regime, as is the case under the specialist IP registers, circular priority problems will persist: and this can be illustrated as follows: Assume ABC have, in that order, registered a security interest in a patent and that A fails to register on the patent register - if B registers knowing of the interest of A and then C subsequently registers without knowing of the interest of A, C will have priority over A but not B, whilst B will have priority over C but not A.

A search of the specialist IP register may not even reveal all the binding interests in the IP. The reason for this is that the certified copies of the entries on an IP register provide only a snapshot of the register at a particular time. There is no grace period whereby the certified copy guarantees the position. The problem is further compounded by the fact that there is no time limit within which the registration of security interests must take place.\textsuperscript{79} In theory, there may be a number of registrable interests which could find themselves placed on the register after the snapshot has been provided and which crucially would enjoy priority. Furthermore, unlike the electronic “real time” process of registration seen in modern personal property registries, in the case of the current IP registries there will be some delay before the interest is registered. As such, invisibility or blind spots are inherent in the current IP registration system. Effectively, financiers are required to take a leap of faith in financing registered IP assets, that is, they are exposed to the commercial risks of fraudulent or the careless creation of double security and many financiers will consider this to be unacceptable to a lending decision.
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predicated upon the assumption of a valid security interest rather than lending on an unsecured basis.

The Law Commission's policy, as set out in its Consultation Paper No 176, is to remove securities over assets for which there is already a specialist register from any new personal property securities regime.\(^\text{80}\) Such an approach is deeply flawed and it is antithetical to the purpose of a modern personal property security regime modeled on an Article 9-type system, which seeks to harmonise and streamline transactions involving security over personally. The adoption of the Law Commission approach would make the legal treatment of security interests in IP assets appear to be haphazard and in the case of the current IP registries could severely compromise the situation where, for example, a lender takes not only a security over a patent or trademark but also the income stream generated by that asset. Lenders would continue to have different sets of registers to contend with and different priority regimes in respect of various categories of IP assets. What is required is a single register of security interests in IP.

There are well known policy matters which need to be resolved with the adoption of the notice filing mechanism, accompanied by the first-to-file priority rule. The validation of the floating lien accompanied with notice filing creates a situational monopoly in the floating lienee. To combat this perceived danger,\(^\text{81}\) the draftsmen of Article 9 provided for the primacy of purchase money security interests (PMSI) in respect of purchase money loans.\(^\text{82}\) What is anticipated here is a strict foreclosure, that is, the debtor's payments are designed to correspond to the new asset's economic depreciation so that repossession of the asset will normally satisfy the purchase money creditor. There is, therefore, no question of the PMSI undermining the interest of the creditors, for example, by shrinking the cushion of free assets that protects the earlier lender against default.\(^\text{83}\) The linchpin concept is “purchase-money

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“[O]ur policy now is not just to exclude charges that are registered in a specialist register but to exclude any form of SI (whether charge or quasi-security) over an asset for which there is a specialist charges register.”

\(^{81}\) This does not mean that the IP statutes should be unified because the function of IP rights in terms of the categories of IP is different. For example, whilst patents and trade marks are concerned with originality and validity of the IP and the release of the monopoly right so created and its use in the industrial or commercial environment, copyright looks to the automatic creation of rights for all those who produce original works so as to protect creativity. The logic of modern personal property security reform is that the first-to-file principle, accompanied by notice filing, should extend to all forms of IP. “Would not the operation of the general lien necessarily throttle such competition [amongst providers of credit] by the blanketing or freezing over the borrower's credit position?” 2 NY Law Rev Comm. 1954 Report, p1034. See Davies “The Trade Debtor And The Quest For Security” in Rajak (ed) Insolvency Law: Theory and Practice (1993) ch 3.

\(^{82}\) There is no provision for the debtor to contract with the creditor not to create a PMSI based upon his expectations of future financing needs. In this sense, monitoring costs for the first secured creditor will increase, which in theory should adversely affect the cost of credit. See Walt and Sherwin “Contribution Agreement in Commercial Law” (1993) 42 Emory LJ 897.

\(^{83}\) The justification for the PMSI is often based upon the fact that it adds to the pool of assets and that if the after-acquired property clauses were to attach to it, then if no extra value is given, the creditor has enjoyed a windfall. This is the explanation for the approach seen in s245 of the Insolvency Act 1986 which makes floating charges created at the onset of insolvency invalid, unless given for new value. See Gullifer, “Will the Law Commission Sink The Floating Charge?” [2003] LMCLQ 125. An extension of credit enables a debtor to continue in business and any form of credit indirectly enables the debtor to acquire or produce assets. Only those loans which are linked to particular additional assets have priority, that is, security interests arising from directly contributing loans are second in time but first in right. Whether the acquisition of “new” assets is more valuable to the debtor's business than, for example, the provision of funds to meet the wage bill of the business is at least questionable. See McCormack “Quasi-securities and the Law Commission Consultation Paper on Security
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obligation” and this is defined in R9:103(a)(2) as including “value given to enable the debtor to acquire rights in or the use of the collateral if the value is in fact so used”. As such, the PMSI claimant’s contribution must be connected in a particular way to the final pool of assets. The necessary connection can be described in two steps: first, the claimant must have contributed a definable asset to the debtor; second, the claimant must establish a transactional link between the original contribution and a specific item of property within the pool of assets available to creditors.

The application of the above concept under the general Law Commission approach will be problematic in the IP context. The tracing and enabling requirements may be difficult to satisfy if the debtor employed resources from any other source and the creditor would have to demonstrate that he had closely monitored the debtor’s use of loan proceeds. Under R9, the PMSI is specifically restricted to sellers and lenders who enable the debtor to acquire rights in goods or software that is or will be embedded in goods. Thus, if collateral is not a good or software that will become a good, a secured creditor cannot be a PMSI holder. This is anomalous because there is no reason in principle why intangible collateral should be excluded from the scope of the PMSI, thereby cutting off financiers of an IP right. To deal with this problem it is necessary to develop another category of PMSI, evidencing a sufficient connection between the loan transaction and the debtor’s development of the new IP. Under the Canadian and New Zealand schemes there may be a PMSI in any form of collateral other than investment property. This would cover the case of a PMSI over a licence to use a patent, for example, where the secured party provides the funds to enable the licensee to acquire the licence. Notwithstanding this, it would be anomalous if such a PMSI were available under the proposed new English and Welsh scheme, given the policy objective of the Law Commission to exclude current registrable IP rights from the scope of the new scheme.

Intellectual property gives the owner the right to exclude others from making, using or selling the invention as defined, for example, in a patent claim. Essentially, it is a bundle of personal property rights that may be subdivided. The owner may choose to exploit it directly by selling it or, alternatively, the owner may exploit it indirectly by transferring some of the bundle of rights by way of an assignment or licence. An assignment consists of a transfer of all or an individual part of a title in, for example, a patent and the assignee substantially stands in the shoes of the grantor. Unlike assignment, a licence does not represent a transfer of any property interest in the patent. It represents a promise by the owner not to sue another who but for the licence would be an infringer of the patent. It is a sharing of rights rather than a

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84 This approach is adopted by the Law Commission op cit fn 80 at para 3.208. The Revised Article 9 does not answer many thorny problems associated with old Article 9. For example, how strict are the tracing rules for a lender PMSI? Both the old and the new Article 9 require that for a lender to have PMSI status, its money must have been used to acquire rights in the collateral in question (see Article 9:107(b) and R9:103(a)(2)). In some cases under the old Article 9, the courts relaxed this rule, as in N Platte State Bank v Prod Credit Ass 200 NW 2d 1 (Neb. 1972). The drafters of the new R9 do not indicate whether or not they approve of this approach. Further, the term “rights in the collateral” is not defined and there is still little guidance in R9, although the wording has been altered slightly so that the debtor must have “rights in the collateral or the power, as distinct from a right to transfer rights in the collateral”. The purpose of this is to cover the case where the debtor has the power to transfer another person’s rights to a certain class of transferees.

85 UCC R9:103(a)(1).

86 UCC R9:103(a-(c).

87 See Law Commission op cit fn 80 at para 3.209. A grace period is provided for registration of non-inventory collateral. In the case of intangible goods, the grace period runs from the attachment of the security interest.

88 See Kruse, Rights to Property (1939); Penner “The ‘Bundle of Rights’ Picture of Property” (1996) 43 UCLA Law Review 711.
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transfer. A licence is a personal right that cannot be transferred under R9:408 in the absence of a provision permitting sub-licensing.

The line between an assignment and a licence becomes fuzzy when a licence is exclusive, that is, where there is a promise by the licensor not to licence others to use the invention. Any comprehensive reform of English and Welsh personal property security law in respect of intellectual property assets would require the adoption of a careful approach to the legal treatment of assignments and exclusive licences, especially since a central feature of an Article 9-type of regime is the development of a generic unitary concept of the security interest and the specific rejection of formalism in security transactions. In effect, the list of financing arrangements to which notice filing extends to all functionally equivalent security devices which are referred to as “quasi-security interests”.

The problem with functionalism is that it cannot distinguish meaningfully between different transactions, that is, analyse, classify and compare transactions and the consequences that flow from each. The reform of English personal property law can only be achieved within the context of property transfer law with its underlying baseline concepts, that is, the conceptual framework will be older than the statute itself. A distinction must be drawn between extinguishment and priority disputes. In the case of the former, the issues go to rights of ownership whereas in the case of priority disputes there are competing security interests in the same asset which may be resolved either through a subordination agreement or through clear priority rules. The differentiation between extinguishment and priority disputes can be illustrated in the context of the rights and obligations of the parties in the assignment or licensing of IP carried out in the ordinary course of business. In many ways this is analogous to the sale or a disposition of tangibles. Thus, in the context of licensing in the ordinary course of business, the appropriate balance between the rights and obligations of all the parties will be based upon the implied authority of the licensor to deal with his own property, even if there is a restriction by a creditor of the licensor to deal with his IP right, for example, because the IP asset is worth more to the creditor if unencumbered by any interest acquired by a transferee. By leaving the licensor in control of the IP asset, he is deemed to have implied authority to deal with it in the ordinary course of business, since it is from the proceeds of

89 Under R9:408 the licensor in the US can prohibit or require consent for transfer by the licensee of the IP license.


91 See fn 80 above. The conceptual framework of an Article 9 regime revolves around the concept of a security interest which is treated as a priority right linked to specific collateral and also that a creditor who takes a non-possessory security interest creates an ostensible problem which he has a duty to cure through public filing. While it is clear that the concept of security interest in R9 is rooted in common law and equitable principles, the draftsmen of Article 9 adopted the term because it did not signal a well-established concept or set of concepts within the existing common law. Essentially, the security interest is a unitary concept within R9 and is a product of functional analysis. It assumes that all security interests perform an identical function as an interest in personal property that secures payment or performance of an obligation. The presumption is that if security is one perhaps among a multiple of objects of a transaction, that characterisation is the overwhelming criterion, at least in respect of registration and enforcement of non-possessory rights. The particular focus of the unitary concept of security interest is therefore upon “sham” transactions and the avoidance of the ostensible ownership dilemma posed by a non-possessory interest. However, this approach is too wide because any non-possessory interest in property creates this risk. As such, the concept of functionalism is an over-simplification of complex patterns of interaction in contractual relations and has blurred the distinction between relative property rights and does not solve the problem of distinguishing between what is owned and what is owed.

disposition that the mortgagee expects the outstanding obligation to be repaid. Alternatively, an estoppel argument is pertinent, that is, the secured party gives every appearance to both the debtor and subsequent licensees of permitting the debtor to freely deal with the asset.

A careful distinction must be drawn between extinguishment and priority disputes as otherwise, in any reform of English and Welsh personal property law, there is the danger of applying the wrong law. Extinguishment disputes go to rights of ownership, whereas a priority dispute arises where there are competing security interests in the same asset which can be resolved either through a subordination agreement or through clear priority rules. Such an approach is fundamental to the conceptual scope and structure of any new legislation in England and Wales which does not seek, Llewellyn-like, to unseat and expunge title as the first rule of property law.

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94 Under R9:321 of the UCC, a non-exclusive licensee in the ordinary course of business takes free of a security interest created by the licensor, even if the licensee had knowledge of the security interest.
96 Llewellyn “Through Title to Contract and a Bit Beyond” (1938) 15 NYULQ 159. Even after the passage of Articles 2 and 9 of the UCC, there are numerous examples of US case law which embrace title. Moreover, “rights in collateral” is the central concept of attachment for the purpose of Article 9. See Davies “The Reform of Personal Property Security Law: Can Article 9 of the US Uniform Commercial Code be a Precedent?” [1988] ICLQ 465.
97 See Davies op cit fn 92.
5. CONCLUSIONS

The proper goals for an effective credit and security regime in intellectual assets include providing clear rules which facilitate future planning and also the establishment of a system that minimises the costs and risks involved in taking a security interest in IP assets. Bright line rules reduce credit costs because they permit an effective assessment of credit risk. The transactional costs involved in establishing the legal basis of the security interest and how that interest can be maintained as the assets are modified and developed can be significant. In this respect, the legislature should promote the low-cost granting and taking of security by ensuring that accurate information is available about the status of the property and future property to be secured, by allowing ease of documentation for the transaction, and also to enable the creditor to enforce his security as cheaply as possible. If all this is achieved, then transaction and monitoring costs will be reduced. However, the facilitation of security is not simply a matter of ensuring priority for creditors. The control rights provided by security will be important to a financier and this is especially the case with technologically-driven SMEs as the line between equity and debt finance may become blurred. When such an SME is in financial difficulty, creditors care about issues of management capability or the threat of the business over-extending itself. A security interest gives creditors a voice in these decisions.

The US experience in the development of a modern personal property security law regime is instructive. The draftsmen of Article 9 of the US Uniform Commercial Code were concerned to expand the pool of assets available for security interests to attach through the explicit recognition of the floating lien, accompanied by a first to file priority rule and a notice filing mechanism. In this regard, it is doubtful whether any previous security statute has so warmly embraced the after-acquired property interest and this policy has been further enhanced in the revision process to Article 9 which was completed in 2001. This revision has provided a considerable impetus to the issue of reform in England and Wales. Nevertheless, the treatment of IP within the Article 9 scheme is problematic and this may explain why IP as the object of collateral for debt finance is only partially dealt with in the recent proposals for reform in England and Wales.

IP is "property" in the sense that it can be bought, sold, licensed or traded as any other form of property. The rights therefore associated with the IP statutes in England and Wales are proprietary in character and whilst other intangible rights may not be codified, they are still protected under the common law, normally in tort through passing-off actions. The categories

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2 These include filing costs such as registration fees and the time costs of registration, as well as search costs including the time costs of searching. See Survey above at Figures 37 and 38.
4 It is sometimes argued that in this way the debtor can then enjoy the maximum interest rate reduction which efficiency allows. However, since the debtor offering security decreases the creditor’s risk of not being paid, the price for the utilisation of the creditor’s money expressed in the interest rate charged should be lower for a secured rather than for an unsecured credit. The difficulty is to determine precisely the lowering of risk as a result of the security, which should then be reflected in the interest rate charged. See Schwartz, “Security Interests And Bankruptcy Priorities: A Review of Current Theories” (1981) 10 JLS 1.
7 See Article 9:204(1) of the UCC.
Financing of Welsh SMEs and the Commodification of IP Rights

of property are expanding and it may be best to consider property in terms of intellectual assets as a convenient way of describing a phenomenon with legal characteristics, that is, a “bundle of rights”, typically to use, manage, transfer and derive interest from an asset. This does not mean that the rights in question exist in all cases as much depends upon use, location and contemplated use because the existence of these rights derives from several bodies of law, the interrelationship among which is often not clearly perceived. There exists a spectrum of obligations associated with IP which have proprietary qualities but which are in fact contractual in nature. These contracts are essential in the commercialisation of an intellectual asset, for example, the “know-how” to bring a patent to fruition or indeed the originator of the IP may need a competitors’ license to add to his process so as to facilitate the marketability of the original IP. Thus, conventional ideas about transfer-giving to another and relinquishing control have to be modified when dealing with intellectual assets.

What is required is a re-evaluation of property theory as the basis of secured financing law which is often conceived of as a series of rights and obligations between individuals in a particular jurisdiction and time with respect to an object. This can be reflected in the so-called distinction between property and contractual obligations when in fact there exists a continuum: On the one hand, there is an unrestricted right to possess and use and dispose “a property right” whilst on the other hand there are limitations imposed by contract in respect of possession, use and disposal. Thus, whilst an assignment of IP is categorised as a “transfer” of all or an individual part of, for example, a patent, a licence is not a transfer and is categorised as a negative covenant to refrain from asseting ownership rights by the licensor. Such a distinction becomes illusory in the case of an exclusive licence which provides the licensee with the power to exclude others, including the licensor. The treatment of licences of IP is important in a modern personal property security law regime and a licence should not become a volatile asset upon the licensee’s default and insolvency so that it can dissipate on the insolvency of the licensee. This is particularly important where an IP asset is licensed back to the originator as part of a financing arrangement.

The registration schemes which exist under the current IP statutes are mainly concerned with documenting the creation of IP rights and not those security interests which arise by way of subsequent dealings with IP as economic assets. Whilst the registration systems are ownership based, they do not necessarily show ownership, for example, all assignments do not have to be filed. The registration process is also flawed because whilst the patent system, for example, describes the rights that are claimed, trade mark registration does not describe the actual use made of the mark and non-use can lead to invalidity. Essentially, the IP registry systems were designed for transaction filing rather than notice filing so that actual knowledge gleaned outside of the registration will bind third parties. In effect, the current position bears a striking resemblance to the pre-1925 unregistered land schemes which is unacceptable.

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9 This can be demonstrated in the context of the securitisation of receivables.
10 The type of trading contract needs to take into account what is traded and it is arguable that sale of goods legislation needs to be reformed to take into account whether one is dealing with goods, services, intangibles or combinations of these. A “hub and spoke” model has been discussed in the USA with the general sales provision in Article 2 of the UCC dealing with “information products” whilst spokes could then be added to cover more complex or specific issues. See Nimmer, “Intangibles Contracts: Thoughts of Hubs, Spokes and Reinvigorating Article 2” (1994) 35 William and Mary LR 1337.
11 See Lipton Security Over Intangible Property (2000) at p177. A variant of this could be extended to cover information assets, that is, the “owner” of an “information product” should be able to control copying, access, use and disclosure of the information in question. See Nimmer and Krauthaus, “Information as a Commodity: New Imperatives of Commercial Law” (1992) 55(3) Law and Contemporary Problems 103 at pp113-114.
12 Nimmer and Krauthaus ibid at p114.
14 This is very important and goes to the issue of valuation of IP assets. See Survey above at Figures 41-43.
Financing of Welsh SMEs and the Commodification of IP Rights

The policy of the Law Commission, as set out in Consultation Paper No 176, Company Security Interests (2004), is to remove securities over assets for which there is already a specialist register from any new personal property securities regime, so confining the application of the proposed new regime to copyright and some design rights. In the context of IP, such an approach is flawed and is antithetical to the purpose of a modern personal property security regime where the focus is to harmonise and streamline transactions involving security over personality. The logic of modern personal property security reform is that the first-to-file principle, accompanied by notice filing, should extend to all forms of IP. A partial reform could compromise the use of IP as economic assets. The problem in England and Wales is that the IP statutes are not really geared to interests in true after-acquired property. Consequently, it is necessary for new developments, as distinct from improvements of named inventions, to be the object of re-registration15 and this creates compliance and monitoring costs for financiers, that is, the debtor must provide notice to the creditor of any new development.

Creators of IP usually go on to create more IP which can enhance or replace the IP originally secured. The revised Article 9 clearly contemplates after-acquired property in IP through the notice filing mechanism. No detailed description is required and a financing statement covers after-acquired property automatically. However, the US position is not a panacea, mainly because of the overlap between state and federal laws and, in addition, under R9 the PMSI is specifically restricted to sellers and lenders who enable the debtor to acquire rights in goods or in software that is or will be embedded in goods but is not available to financiers of an IP right. Such an approach is anomalous and reflects the needs of an historic economy based upon manufacturing, as distinct from the requirements of a knowledge-driven economy.

The growth of high technology businesses go through cycles which are now predictable, from early conception where internal and informal financing may be sufficient through to angel investors and formal venture capitalists who provide capital during the early and further growth stage of a business. The provision of more formal sources of finance will, as a matter of due diligence, require an evaluation to be made of intellectual property assets. The complexities of due diligence for technology projects requires an experienced venture capital team, as there are problems associated with the asymmetries of information which preclude investors from evaluating the quality of the investment proposed. At the same time, the law is deficient in terms of the length of time that can be taken to register a security interest with the specialist IP register, together with the lack of grace period between applying for the registration of a security interest and the actual registration taking place.16

A significant dilemma for Welsh SMEs which emerges from the Survey conducted in this research is that SMEs in Wales have not developed sufficiently within the business life cycle and that the IP has not been fully commercialised or at all.17 A disproportionately large share of Welsh patent publications during the period 1983-2001 is accounted for by firms having a single publication – over half of the patent active firms in Wales published only one patent.

15 An agreement to assign future inventions may be upheld where the agreement relates to improvements of named inventions. Under s33(3)(b) of the Patents Act 1977 there is set down a procedure by which a notice of mortgage transaction can be recorded. This creates the possibility of a legal mortgage automatically arising upon the grant of a patent. Under current legislation, there is no mechanism to take security over after-acquired property – pure future patents over which no registration application has been made. Such future rights only find expression as floating charges under the companies regime and are not registrable under the Patents Act 1977. The problem is acute in the film and software industries where property evolves over a period of time. For example, a computer program is never finished completely – there will be “patches”, amendments, improvements. Also a feature film is not completed until the “final cut” is done - up until that point there may be hundreds of discreet copyrightable components. The Copyright Designs and Patent Act 1988 provides for future assignment in this context.

16 See Section 3 at Figures 45-47.
The critical mass required to commercialise patent portfolios amongst SMEs is mainly absent in Wales. There may be policy implications here for the investment strategy of Finance Wales which, as a subsidiary of the Welsh Development Agency, aims to provide a range of financial support to Welsh businesses, including equity investments and loans.

The structural uncertainty in the law relating to the use of IP as collateral for the purpose of raising debt finance has meant that enterprises are being unnecessarily impeded in their ability to raise capital. There is an under-utilisation of IP as collateral for debt financing which may impact upon the survival of technologically-based firms where their principal assets essentially comprise of their IP. Historically, financiers have not focused upon the use of intangibles as security and specific evaluation of IP has not occurred. Thus, in many cases, patents, for example, simply feature as part of the general assets of a company for the purpose of a floating charge or perhaps identified as a fixed charge within a portfolio of company assets generally. Self-evidently, the security potential of patents as assets for the purpose of raising debt finance is compromised by this approach. The current legal position reflects a clash of legal cultures between an intellectual property law on the one hand, which is concerned to reward endeavour by protecting through monopolistic rights the originator of the IP and, on the other hand, that of a credit finance law which is concerned to provide a framework for conducting transactions that establish an effective security regime for creditors with clear priority and enforcement rules following default.

There are difficulties that have to be overcome if IP is to be an effective asset for the purpose of taking collateral. These arise out of the nature of the IP and the lender will need to monitor and police the IP, as well as preserving it through renewing registration where appropriate. A fundamental issue relates to the process of valuation. Generally accepted accounting principles are conservative in reflecting the value of IP on a company’s financial statements. While many different methodologies exist for assessing the value of an IP asset, until a greater degree of general consensus emerges, IP based finance will be exposed to the accusation that is based on at best a subjective appraisal of value. It may be that the conceptual problem in this context relates to the nature of the asset as protecting a monopolistic position of the owner – he has to still exploit the idea. In this sense, the IP asset is often considered to be a negative right, that is, a “shield” to defend a type of business activity. This is not necessarily the case because licensing out the technology through the authorised use of it in someone else’s manufacturing process is a valuable proprietary right generating receivables. However, the need to value the IP cannot be avoided, even in the context of licensing because this is necessary in order to settle what the royalty rate should be, that is, the appropriate fee for the right to exploit the IP. The availability of information is critical to this process in order to approach the issue of valuation. At the same time, it is necessary to process the information and a metrics can be very helpful in order to optimise the intellectual property asset transaction. We live in a world that understands the lessons of Black-Scholes and the option method of valuation could be developed as a model for Finance Wales in providing finance assistance to emerging technology-based SMEs in Wales.

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18 Uncertainty in terms of the creation of an effective security interest in IP may cause a lender to desist from extending credit. Perhaps the most dramatic example of this phenomenon within common law jurisdictions was the US Ship Mortgage Act 1920. This was designed to encourage the private financing of shipbuilding after the First World War by providing lenders with an extensive security device. Questions concerning the constitutionality of this legislation meant that it was not used and the financing of shipbuilding was in fact depressed. See Gilmore, Security Interests in Personal Property Vol 1 (1965) at p408.
19 See Section 3 at Figure 44.
20 See Section 3 at Figures 7-9, 30-36.
21 See Section 3 at Figures 41-43.
22 See Section 3 at Figures 39-40.
OVERVIEW AND POLICY RECOMMENDATIONS

- IP acquisition is a measure of the technological and creative dynamism within an economy.
- The availability of finance is vital to facilitate the exploitation of IP rights, that is, the conversion of these rights by way of commercial exploitation into goods and services.
- There are significant problems linked with the characteristics of technology-driven SMEs which make financing difficult: Their value is linked to longer term growth potential derived from scientific knowledge and IP; the lack of tangible assets which may be used as collateral; their products have little track record and may be subject to high rates of obsolescence. In view of these characteristics, the risks of traditional finance is both high and problematical but paradoxically and at the same time the capacity for such small business to fulfil their potential depends on the availability of finance.
- The business life cycle of technology-driven SMEs is predictable from early conception where internal and informal financing may be sufficient through to angel investors and formal venture capitalists who provide capital during the early and further growth stage of a business. The provision of more formal sources of finance will, as a matter of due diligence, require careful evaluation to be made of the firm’s intellectual property assets.
- The technological innovation of too many firms in Wales fails to survive beyond early conception. This is evidenced by the number of IP registrations, notably patents which are allowed to lapse.
- A disproportionately large share of Welsh patent publications is accounted for by firms having a single publication. The critical mass required to commercialise patent portfolios amongst SMEs is mainly absent in Wales.
- There are policy implications for the investment strategy of Finance Wales which aims to provide a range of financial support to Welsh businesses, including equity investments and loans.
- The development of a metrics would be helpful to the process of valuation of IP.
- The structural uncertainty in the law relating to the use of IP as collateral for the purpose of raising debt finance has meant that enterprises are being unnecessarily impeded in their ability to raise capital. There is an under-utilisation of IP as collateral for debt financing which may impact upon the survival of technologically-based firms where their principal assets comprise of their IP.
- The law in respect of secured financing of IP assets is unsatisfactory. It is overly complex, fails to provide clear rules which facilitate future planning, incurs credit costs. The current law bears a striking resemblance to the pre-1925 unregistered land schemes and this is an unacceptable basis for developing a knowledge-driven economy. However, there are inherent difficulties which arise out of the nature of the IP assets themselves as the lender will need to monitor and police the IP, as well as preserving it through renewing registration when appropriate.
- The Law Commission Consultation Paper No 176, Company Security Interests which was published in August 2004 fails to satisfactorily deal with IP as assets. The policy of the Law Commission as set out in its Consultation Paper is to remove securities over assets for which there is already a specialist register from any new personal property security regime, so confining the application of the proposed new regime to copyright and some design rights only. In the context of IP, such an approach is flawed. The logic of modern personal property security reform is that the first-to-file principle, accompanied by notice filing, should extend to all forms of IP. A partial reform could compromise the use of IP as economic assets and so prejudice the further development of the knowledge driven economy.
In the light of this Research Report:

The UK Government should

- Ensure that the current review of personal property security law in England and Wales extends the anticipated notice filing mechanism accompanied by the first-to-file principle to all IP assets, irrespective of whether they are currently registrable rights.

The Welsh Assembly Government should

- Use the findings of IP Wales research as a baseline for continued future monitoring of IP activity in Wales.
- Co-ordinate the development of a strategy for promoting IP activity among SMEs in Wales, especially the clustering of IP.
- In conjunction with Finance Wales, develop valuation tools for IP assets and further facilitate the early provision of equity finance to break through the problem of stunted growth of technology-driven SMEs and the general failure to commercialise IP assets in Wales.