

Intangible economics: investment, returns & funding

A presentation for COTEC by

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Economic Approaches to Intellectual Property



A practical, not theoretical, view...



IP web tools

Our online platform provides a scalable, standardised toolkit

- Intangible asset identification
- Indicative valuation
- IP diagnosis (a 'mini-audit')
- Investability scoring

Facilitating negotiations and transactions at low cost

IP commercial services

A team of business and IP experts specialising in:

- IP audits and inventories
- Technology assessments
- Portfolio utilisation analysis
- 'Bespoke' IP valuations

Informing strategy and investment decisions

IP policy

High-profile assignments on IP-related value and usage

- National IP offices
- Innovation agencies
- Industry associations
- Inter-governmental bodies

Focused on the 'new realities' of intangibles



Setting the scene



The nature of commerce is changing

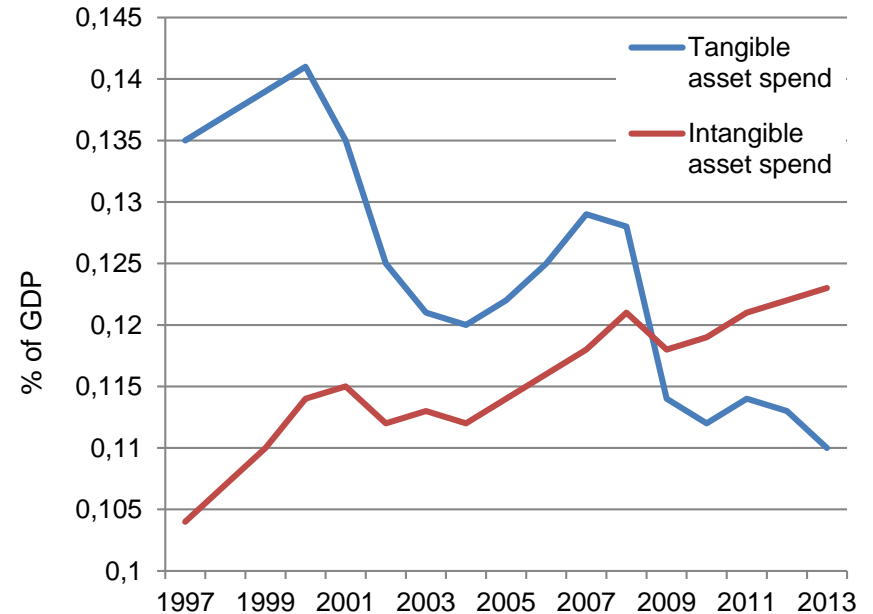
- Social and technological disruption are driving major change in business models

The nature of company investment is also changing

- Firms know knowledge assets are business-critical drivers of value, and essential for competitiveness
- As a result, intangible spending is on the rise; overall tangible asset investment is falling

Business frameworks are not keeping pace

- Accounting does not encourage intangible asset identification or reflect the value contributed
- IP does not count as collateral for loans or contribute to lender capital adequacy



Changes in US & European investment as a % of GDP
(INTAN, from *Capitalism without Capital*, 2017)

Three aspects for consideration

How IP and intangible value arises

- Economic function and behaviour of IP and intangibles
- Patterns of investment and macro/micro-economic returns

Quantifying intangible value

- IP valuation drivers and methods

Unlocking intangible value

- Intangibles financing challenges and solutions



How IP & intangible value arises

Underlying rights

Characteristics

Expenditure

Incomes

Effect on M&A and exits



Three economic arguments around IP



Some intangibles have been regarded as valuable for centuries, and attract special intellectual property rights to facilitate exploitation

- Inventions, designs, creative works, brands

‘Social contract’ theory justifies this by saying:

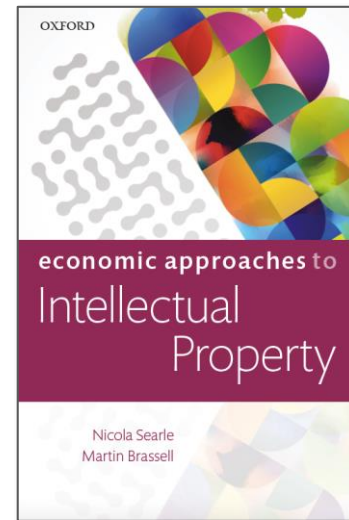
- IP rights are a result of a bargain between the creator and society
- Creator provides knowledge and innovation to society, in exchange for a state-sanctioned, time-limited legal monopoly

‘Labour desert’ theory justifies this by saying:

- IP rights are earned by inventors because they are the ones who put in the time, effort, and skill to create the IP – for which they should make a return

‘IP rejection’ theory thinks it’s wrong because:

- Monopolies are always anti-competitive and raise prices
- (However, a legal monopoly is not same as a commercial one: and some IP ‘raises all boats’)



“The book not only provides a good introduction to the subject, but also is impressive in the breadth of its coverage” - Justice Richard Arnold, UK Patents Court

Characteristics of intangible investment



Growth accountants/economists list investment under six headings

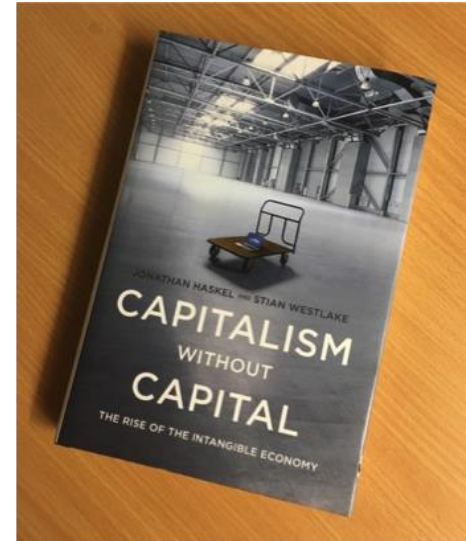
- R&D; software; design; organisational development and business process improvement; firm-specific training; branding
- Plus artistic originals (if these are linked to revenue)

Intangibles exhibit four main differences from tangibles

- They are *scalable*
- Their associated costs are usually *sunk*
- They generate *spillovers* and *synergies*

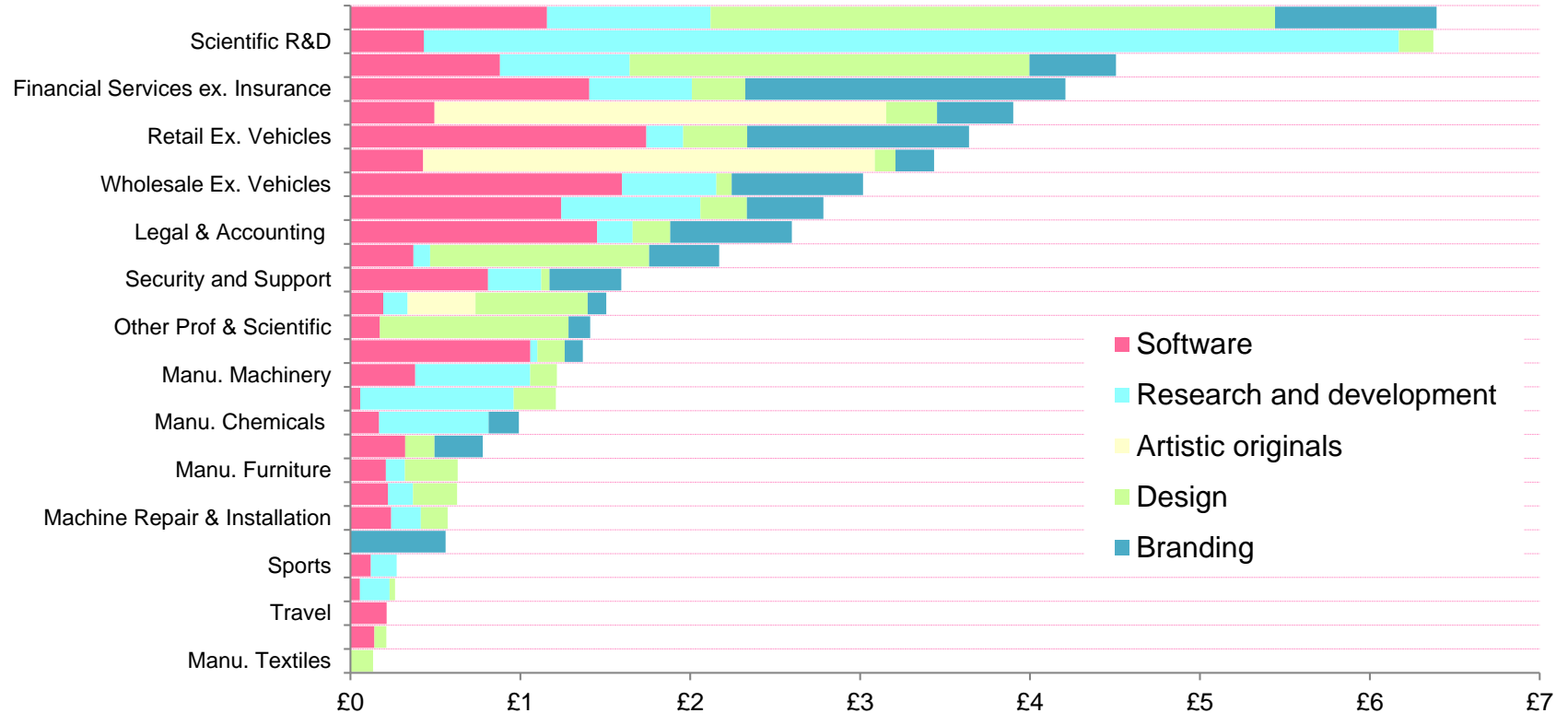
These differences create two further attributes:

- *Uncertainty*
- *Contestedness*



“If you want to understand why this matters, the brilliant new book Capitalism without Capital by Jonathan Haskel and Stian Westlake is about as good an explanation as I’ve seen” – Bill Gates

How UK companies invest



Estimated annual company expenditure on 'fundable' IP and intangibles, £ billions, by type (Source: RBS Group)

Income flows attributable to licensing



Country	2008	2011	2014	2017
France	15,477	15,335	14,539	16,541
Germany	7,208	10,716	15,429	20,151
Ireland	1,698	5,003	6,330	12,906
Italy	3,268	4,028	3,295	4,558
Japan	21,698	28,989	37,336	41,743
Luxembourg	434	573	1,991	2,159
Netherlands	26,680	27,664	38,138	43,989
Spain	No data	No data	1,436	2,373
UK	16,294	16,957	19,826	18,199
US	98,406	123,334	129,715	127,935

Source: World Bank

Sums are receipts by country

Shown in US \$ms

Product sales under licence: US top 10



Source: License! Global

No	Name	2018 \$	Lines	No	Name	2018 \$	Lines
1	Disney	\$53bn	Star Wars, Avengers, Frozen, Disney Princesses	6	Iconix Brands	\$7bn	Peanuts, Umbro, Lee Cooper
2	Meredith	\$23.2bn	Better Homes & Gardens	7	Warner Bros	\$7bn	DC Comics, Harry Potter
3	PVH Corporation	\$18bn (Est)	Calvin Klein, Tommy Hilfiger	8	Major League Baseball	\$5.5bn	-
4	Universal Brand Development	\$7.2bn	Universal, Illumination, DreamWorks	9	Nickelodeon	\$5.5bn	Teenage Mutant Ninja Turtles, Paw Patrol
5	Hasbro	\$7.1bn	My Little Pony, Transformers, Monopoly	10	Authentic Brands Group	\$5.3bn	Elvis Presley, Muhammad Ali, Marilyn Monroe, Michael Jackson

Figures show **global sales of licensed products** (not licensor income)

Prices paid for intangibles in M&A



Deloitte sector (KPMG sector)	Price % allocated to identifiable IA (Deloitte)	Price % allocated to identifiable IA (KPMG)
(Automotive)	-	34%
Chemicals & industrials (Chemicals: Industrial products)	38%	48%: 36%
(Computer & semiconductors)	-	45%
Financial institutions (Financial services)	42% (banks 32%)	34%
Food & beverages: Household goods ((Consumer products & services)	39%: 29%	55%
(Internet & e-commerce) (Software)	-	33%: 28%
(Life science & healthcare)	-	45%
Media (Entertainment & media)	34% (range 20%-50%)	43%
Retailers	25% (general), 5% (food/drug)	-
Support & construction	27%	-
Telecommunications (Telecommunications)	33%	34%
(Transportation & logistics)	-	34%

Figures show % of price paid attributed to identifiable intangible assets following purchase price allocation

Synthesised from post-acquisition accounting research by Deloitte (2007) and KPMG (2010)

Intangible-rich company exits



Text prediction: 4 granted
& 54 pending patents
*Acquired by Microsoft in
2016 for \$250m*



Patent protected virtual
assistant technology
*Acquired by Apple in 2015
for \$50m - \$100m*



Machine learning for visual
processing: 20+ patents pending
*Acquired by Twitter in 2016 for
\$150m*



Fabless semiconductor-
based air quality sensors
*Acquired by AMS in 2016 for
undisclosed \$ms*



AI and neural networks:
multiple patents
*Acquired by Google in
2014 for \$600m+*



Wireless chips for envelope
tracking : 200+ patents
*Acquired by Qualcomm in
2015 for \$50m*



Natural search for mobile
applications: 4+ patents
*Acquired by Amazon in 2012
for \$26m*



Machine-to-machine
networks: 24+ patents
*Acquired by Huawei in 2014
for \$25m*

Quantifying intangible value

Valuation market research

Valuation methods

Key drivers



Our study findings hold few surprises



Not many companies are concerned with IP value day-to-day

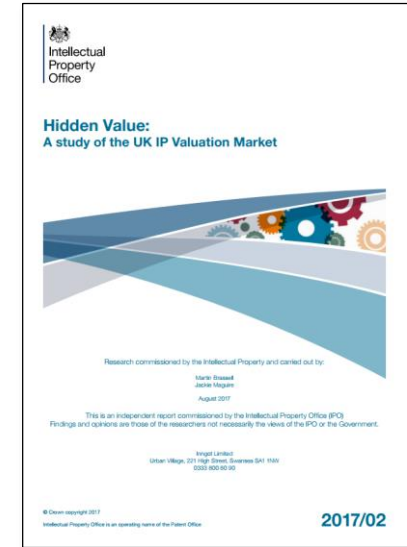
- Accounting rules obstruct companies' view of IP and intangibles as value-producing assets

Most motivations for examining IP value are transactional in nature

- M&A, transfer pricing, litigation, insolvency, compliance

Methods used by valuers are consistent: cost, market and income

- Actual choice driven by data availability and valuation purpose; income approaches are the most popular



Hidden value: a study of the UK IP Valuation Market
(Brassell & Maguire, 2017). Available for download at
<https://www.gov.uk/government/publications/hidden-value-a-study-of-the-uk-ip-valuation-market>

Three main IP valuation approaches



Cost

Principle: what would it cost to reproduce or replace these assets?

Pros: *simplest* – reflects investment made. Can often be modelled from historical data on labour, direct costs and overheads, appropriately adjusted – and why would a buyer pay more?

Cons: *worst* – cost is seldom reflective of value created, often includes irrelevant elements, ignores blocking effect of the IP itself, and is not forward-looking

Market

Principle: identify sales/purchases of similar assets: compare them and extract implied multiples

Pros: *most like tangible assets* – based on prior factual transactions – don't have to put the brand on sale to work out what people will pay

Cons: *hardest* – not much data (because intangibles normally change hands as part of M&A), comparability is often low (assets may be distressed, or market overheated) – sometimes there are no obvious multiples

Income

Principle: what is the present value of the future cash flows attributable to the assets?

Pros: *most relevant* – motivation for any transaction is normally to benefit from future IP value

Cons: *most risky* – value from IP can be hard to isolate, future projections always uncertain

What drives value consideration?

Meeting an established need

- Purchase price allocation (following M&A activity)
- Determining IP value in insolvency proceedings & company liquidations
- IP litigation, e.g. calculating damages
- Transfer pricing, e.g. for tax planning, including offshoring
- Pension asset transfer
- Compliance with market requirements (e.g. an IPO)
- Divorce/probate

Already well supported by regulation, custom & practice

Opportunity-led

- Raising equity funding
- Negotiating licensing agreements
- Establishing franchising arrangements
- Structuring collaborations, partnerships & joint ventures
- Buying & selling IP assets
- Setting a reserve for IP auction
- Portfolio assessment
- Return on investment calculation
- Strategic business insights
- IP ownership dispute resolution

Dependent on recognition of a need by a business or its advisers

Emerging applications

- Raising debt funding
- Insuring IP value (i.e. not just pursuit & defence cover)
- Possible changes to financial reporting of intangible assets

Currently mostly opportunity-led, require standardised approaches

Unlocking intangible value

Lending research

Possible benefits

International initiatives

Current focus



The ‘Banking on IP?’ hypothesis



IP has value, but it may not be visible until a company gets bought

- It is linked to cash flows, and therefore serviceability
- There are accepted ways to value it

Equity investors understand IP value better than lenders

Bank controls over IP are seldom very effective

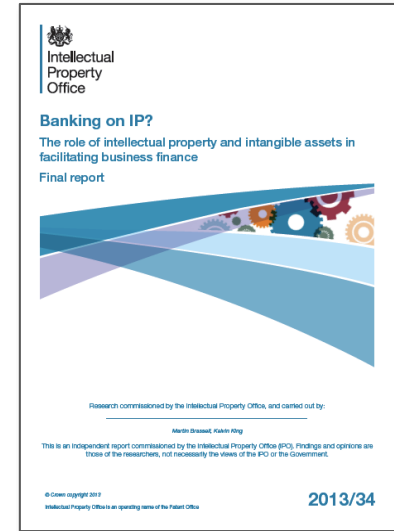
- A missed opportunity to influence borrower behaviour

Regulations don't help, but aren't an insuperable obstacle

- IP in a failed business is not very liquid, but not worthless either

The biggest barrier is probably on the borrower side

- In identifying, and explaining, what the assets are, and what they contribute

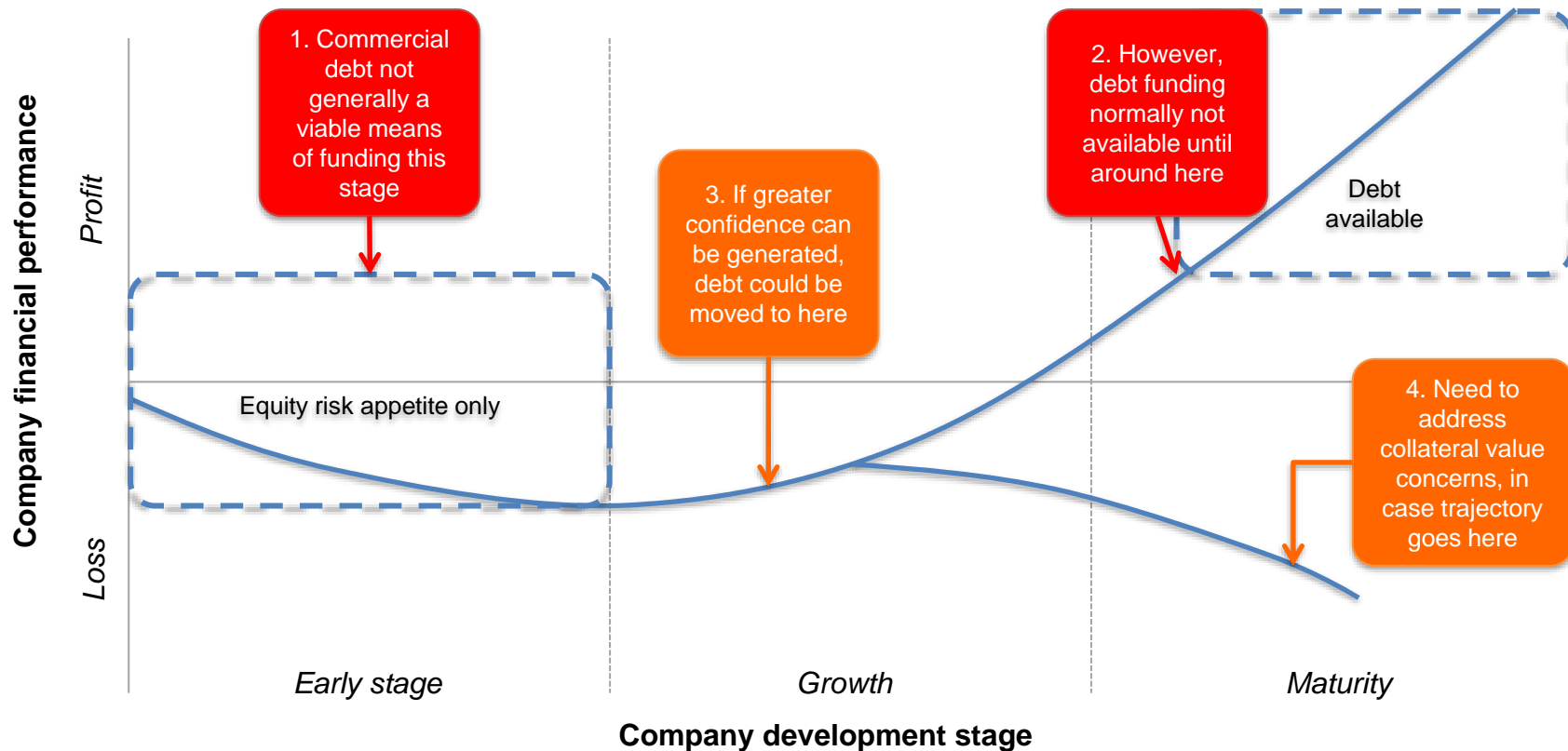


Banking on IP? The role of intellectual property and intangible assets in facilitating business finance (Brassell & King, 2013).

Available for download at

<https://www.gov.uk/government/publications/banking-on-ip>

Who might intervention help most?



IP value-driven policy responses



Asia is currently leading the world in helping companies unlock value in their IP for finance

- IP finance initiatives (7)
- Patent or IP 'Box' schemes (12)
- R&D tax incentives (30+)

OECD study of international trends



China's financing scheme is the largest and most diverse, focused on secured lending

- US \$8bn financed for 2,000 companies in 2015: some devolved responsibility

Japan's current scheme is focused on unsecured lending

- Historically, Development Bank lent directly: now focused on 530+ regional banks, funding valuation reports (150 per annum)

Korea is most centralised, supporting secured and asset-backed approaches

- US \$100m lent by Korea Development Bank to 80 firms in 2015

Malaysia & Singapore have both used guarantees to support secured finance

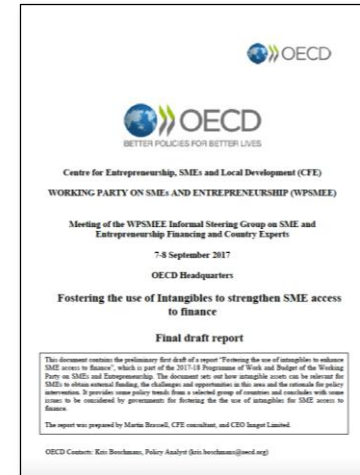
- Funding sources are different – central vs. commercial

European emphasis has been on tax credits, 'patent boxes' and guarantee schemes

- Specific attention paid to IP/innovative capacity in France and Italy

US market is informal, and regularly sees patents used as security

- However, it is not clear this is leveraging additional lending to SMEs



Fostering the use of intangibles to facilitate SME access to finance (Brassell, 2018). Publication pending

Three promising directions in debt funding



Unsecured lending

Use knowledge of the assets and their 'materiality' to strengthen credit decisions and take appropriate controls

- Used for certain copyright assets in the creative industries
- A common feature of venture debt funding
- Also applicable to general commercial lending

Secured lending

Independently **assess** and **underwrite** the assets and back a minimum collateral value with a **guarantee** or **insurance policy**

- Asia IP financing schemes (backed by guarantees of 50%-100%)
- Historical work on US loan portfolios – where insurance rating was also leveraged

Asset-backed lending

Purchase assets known to be business-critical and **license** them back to the company for an agreed period

- Active in UK (asset and pension-led funding) and Korea
- Has some parallels with IP acquisition models (e.g. France Brevets)

Current UK focus



‘Task force’ established: British Business Bank, UK IP Office and Treasury

- Hypothesis: use a government guarantee in support of a commercially insured IP collateral value
- Working with lenders, insurers and private sector
- Standardised front-end assessment and valuation routines, and back-end monitoring and recovery processes

Current emphasis is primarily on data

- The nature, role, extent and accounting of intangible asset investment
- Analysis of guarantee portfolio (default/recovery)
- Market-derived data on asset recoveries and their characteristics

Initial findings promising

- Companies with registered IP (especially patents, but also trade marks and designs) significantly less likely to default on loans
- Trend evident regardless of amount, term and lender



Policy paper

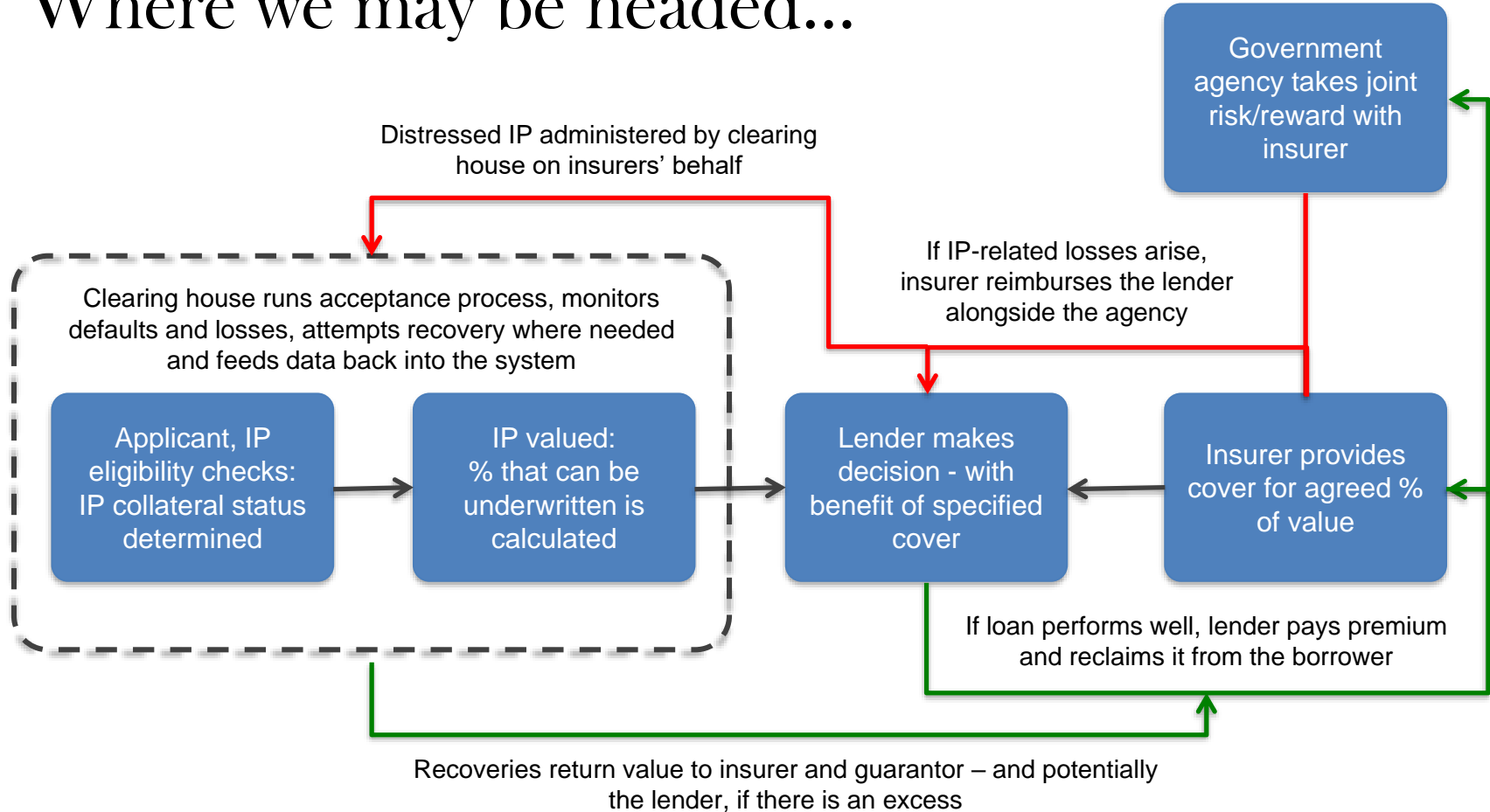
Autumn Budget 2017

Published 22 November 2017

“The government will also work with businesses, lenders, insurers, the British Business Bank and the Intellectual Property Office to overcome the barriers to high growth, intellectual property-rich firms, such as those in the creative and digital sector, using their intellectual property to access growth funding”.

Budget statement available at
www.gov.uk/government/publications/autumn-budget-2017-documents/autumn-budget-2017

Where we may be headed...



Summary



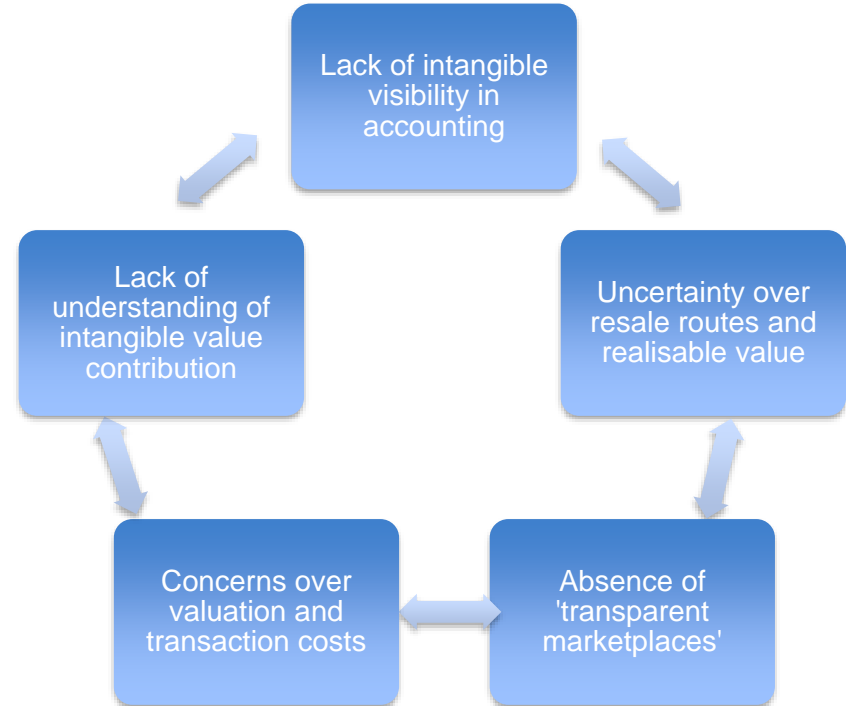
Breaking the 'vicious circle'

The assets intangible investment creates have different value-generating properties compared with 'traditional' tangibles

- Many protectable with IP rights, meaning they are inherently tradable
- However, their relationship to a firm's activities is much closer and more personalised
- This is why they are not regularly bought and sold – they are too valuable!

The 'vicious circle' makes it hard for firms that rely on intangibles to raise investment for growth

- Progress requires one or more links to be broken
- We are working to make this happen



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