

IP Research 2013

UK Issues

Patent Statistics for Decision Makers

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Intellectual
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- **Survey on IP Use**
 - with ONS, Ashish Arora and Suma Athreye
- **Patent Thickets**
 - with Georg Van Graevenitz, Bronwyn Hall Christian Helmers
- **Trolls at the High Court**
 - with Luke McDonagh and Christian Helmers
- **IP Bundles**
 - with Christian Helmers and Phillip Schautshick
- **IP Enabled Finance ‘Banking on IP?’**
 - with Martin Brassell and Kelvin King

Most of the slides that follow come from their presentations

Survey on IP Use

- Builds on Community Innovation Survey
 - ‘can we call you back’ and ask about response?
 - self selecting sample ... but 60% response rate
 - built on Carnegie-Mellon experience
- Research Objectives
 - how much innovation is patented (propensity)
 - what drives propensity
 - how much is licensed in or out?

Survey Sample

Innovator	SIPU		CIS6	CIS7	Small	Medium	Large	Knowledge sector
	N=811	%	%	%	%	%	%	%
	274	34	24	19	34	31	38	32

- Period 2009-2012
- CIS6 sample frame – innovators and non-innovators
- Phone survey by Office for National Statistics
- 811 usable responses out of 1,349 (60%)
 - Refusals 74 (5.5%)
 - Non contact 464 (34%)
- innovators and small firms over-represented

External Technology

	CIS6 (2006-2008)	SIPU (2009-2012)	CIS7 (2008-10)
All firms ²	18%	21%	10%
SME ³	17	19	09
Large firms ²	21	34	14
Product Innovators ³	39	42	34
Non-Innovators ⁴	14	09	07

Share of firms reporting technology purchase (purchase of R&D services or technology in-license)

SIPU	Non-innovators	Innovators	Total
External tech =0	436 (54%)	203 (25%)	639 (79%)
External tech =1	43 (5%)	129 (16%)	172 (21%)
Total	479 (59%)	332 (41%)	811 (100%)
CIS6			
External tech =0	295 (36%)	227 (28%)	522 (64%)
External tech =1	65 (8%)	224 (28%)	289 (36%)
Total	360 (44%)	451 (56%)	811 (100%)

Innovation and technology purchase: CIS6 and SIPU

- 20% of firms acquire external technology
 - 40% of innovators
 - 10-15% of non-innovators
 - Large firms more likely (innovation?)
- Decrease over time
 - Decrease in innovation

The market for technology in UK

in-licensing and purchase of R&D services

Innovators					
	firms in SIPU	firms in the UK	Weight	Expenditure on in-licensing and R&D purchase in SIPU (£ millions)	Estimated expenditure on in-licensing and R&D purchase in the UK (£ million)
	(1)	(2)	(3)=(2)/(1)	(4)	(5)=(3)*(4)
Small	180	38,994	217	3.8	826.8
Medium	100	8,134	81	4.7	381.5
Large	52	1,635	31	100.8	3,169.1
Non-innovators					
Small	260	110,951	427	2.1	879.6
Medium	147	16,985	116	8.1	931.8
Large	72	2,917	41	18.9	764.1
Total					6,952.1

- £6.9 billion a year for 2009-2012
 - SIPU asks for expenditure on licensing and R&D purchase as % of capital expenditure
 - Use investment expenditure and infer expenditure on licensing and R&D purchase
- 40% of private R&D expenditure in UK
 - BERD = £17.4 billion in 2011
 - Comparable to US ratio, and direct estimates from CIS6 and CIS7
 - Non Innovators: more than 1/3rd of in-licensing and R&D purchase

Summary

- Innovation, in-licensing, and patenting follow a logical pattern
- Market for technology is developed in the UK
 - 20% of all firms, 40% of firms with new products or processes
 - Use to catch-up with leading firms
 - Large firms more likely to use external technology
 - Expenditure on external technology ~ 40% of private R&D expenditure
- Use of patents in UK firms is higher than raw data suggests
 - Need to adjust for effects of scale and innovation
 - An estimated 28% patent “new to the market” innovations
 - Tech based product innovations more likely to be patented
 - Patenting greater in innovation intensive industries
 - Patenting associated with fewer potential imitators

Thickets and Trolls

- ‘Thickets’ where three or more firms patents overlap
 - Definition of ‘complexity’ and scope for stalemate
 - Look at both density of patents and degree of overlap by class
 - Density doesn’t reduce likelihood that new firms will patent
 - Overlaps do reduce patent entry impact in telecoms
- ‘Troll’ cases in UK Courts where PAEs take action
 - Relatively few UK cases – around a dozen 2001-2009
 - They almost always lose!
 - Across over 280 UK Patent Court cases, of all types, most likely outcome is invalidity
 - Loser pays ensures they don’t come back.

IP Bundles

Range of Approaches

Macro-level, based on linked data

- Owning both patents and trade mark, proxies for the use of IP bundles
- Correlations between annual growth rate of employment, turnover, & total assets and different types of IP users

Micro-level

- IP bundles at the product-level
 - * Product group approach
 - * High-growth firms and small IP portfolios

Court cases

- All cases before the Patents Court for England and Wales between 2000 and 2008 that involved IP bundles
- IP bundles that represent 'valuable' IP rights

Macro Picture

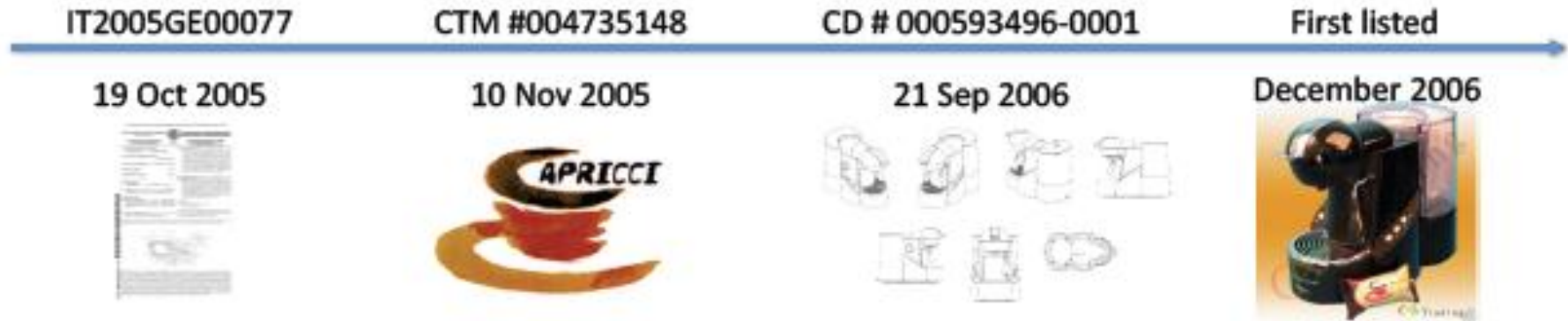
Related to Growth in:	Employment	Turnover	Assets
Only patents	-	-	+
Only trade marks	+	-	+
Both	+	-	+
Observations	67,017	159,832	997,637

Based on PATSTAT data linked to FAME

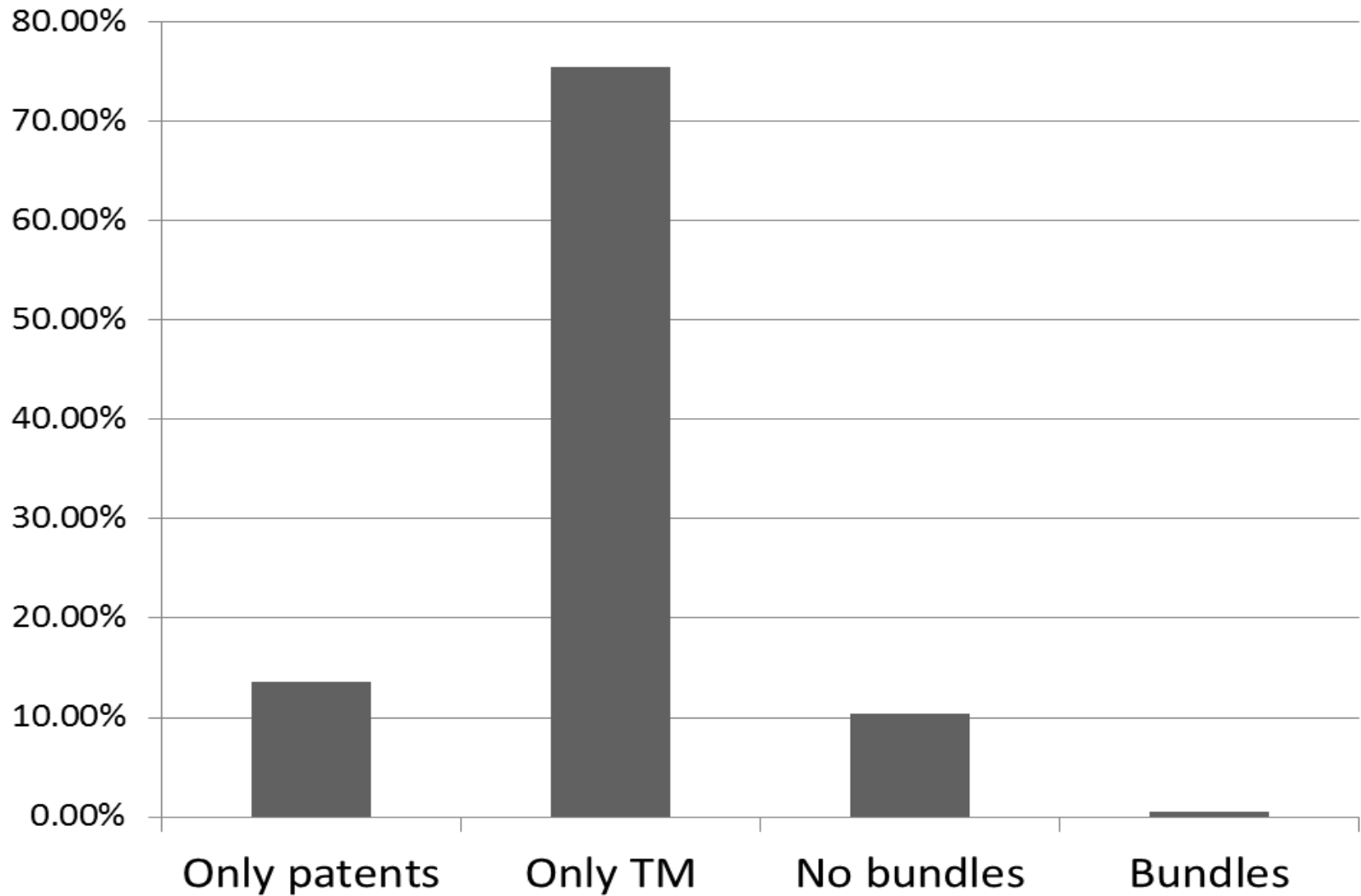
Micro Level - Product Group

- Products that
 - Embody patentable technology
 - Carry trade marks
 - Are exposed to the eye, so that the design matters

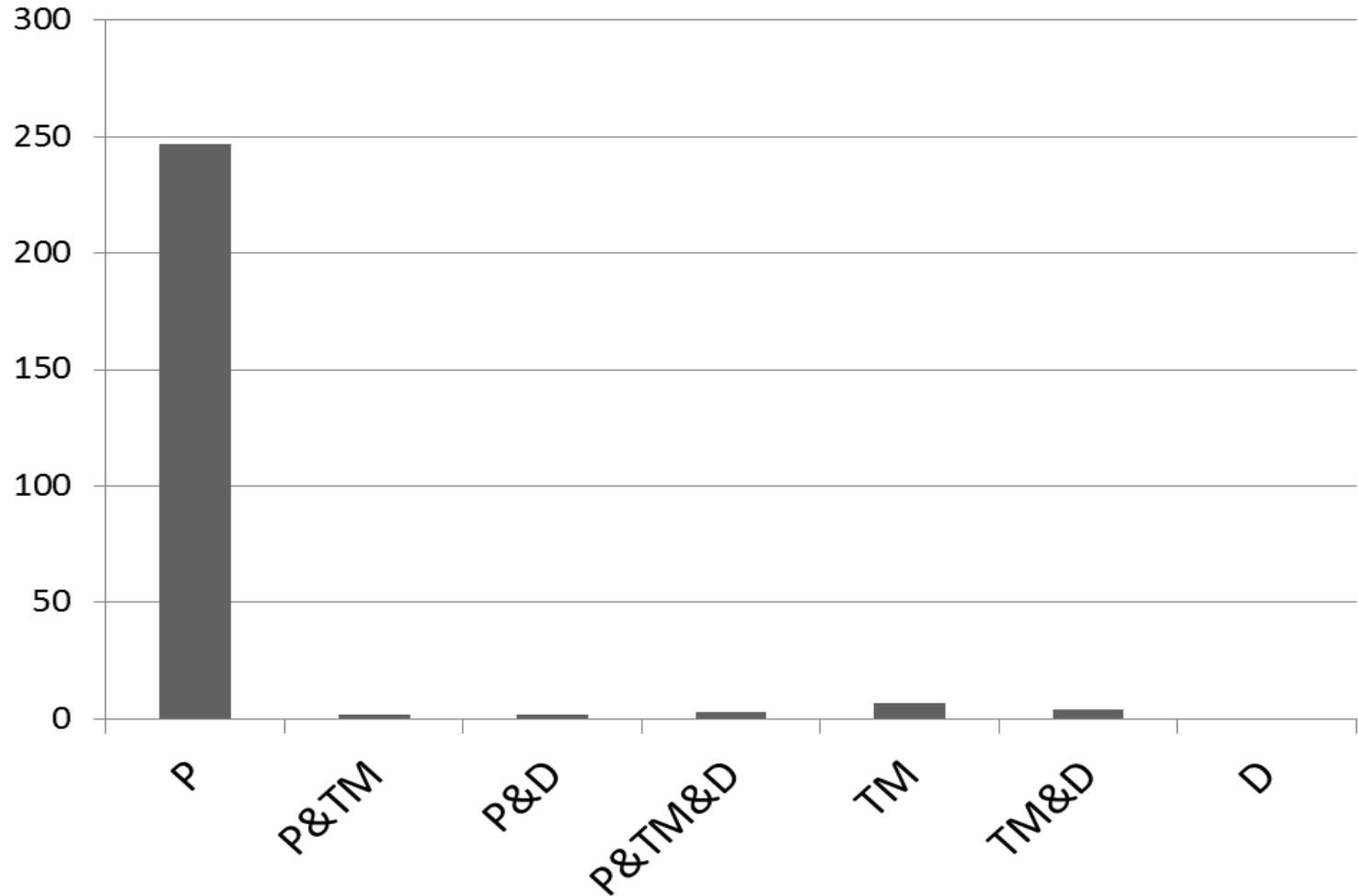
Eg. - Home-use coffee machines



Distribution of IP user types



Bundles rarely show in court



% UK court cases 2002-9

First thoughts on IP Bundles in UK

Macro-level

Firms with both patents and trade marks account for a large share of total assets, employment, & turnover in manufacturing

(Weak) positive correlation between owning patents as well as trade marks and firm performance

Micro-level

Relatively few firms that apply for both patents and trade marks use them as bundles

Joint filing of patents and trade marks misleading proxy for use of IP bundles

Considerable variation across industries in the use of bundles

Firms file different IP rights closely together

Court cases

Very few court cases involve IP bundles

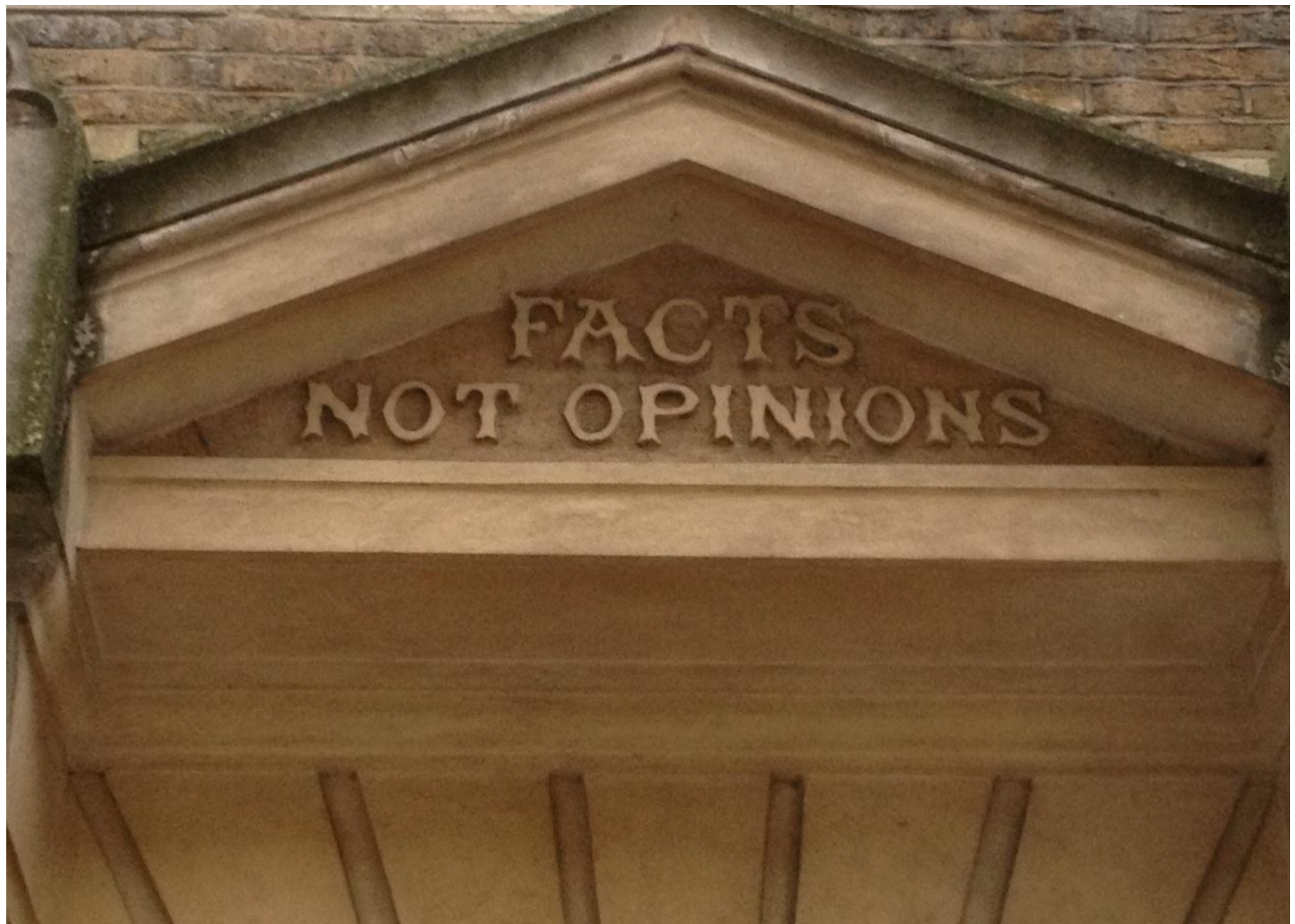
Large majority of cases involving bundles contain trade marks

IP Enabled Finance study

- Can we enable IP rich firms to access finance to innovate?
- In depth interviews with providers and users of innovation finance
- Focus on how IP is treated in funding decisions
 - business approach to banks and others
 - account management and assessment
 - regulatory framework
- Set out to identify where it is successfully used to ‘make markets work’

Recommendations cover...

- Standard, lower cost, template for smaller firms to show IP and link to cash flow
- Need for banks to be able to understand it
- Insurance solutions for possible business failure
- IP markets which give 'disposal value' for possible business failure
- IP data and systems that support a market
- Potential for financial instruments to reduce risk
- Scope for IP in existing finance guarantees



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Thank you

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