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Articles

The valuation of patent-trademark pairing as IP strategy: evidence from the USPTO

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Acknowledgments

I would thank for comments at various stages of this project Ashish Arora, Bronwyn H. Hall, Alan Marco, Amanda F. Myers, Mark Schankerman, Nathan Wajsman and all the participants at the European Policy for Intellectual Property Annual Conference in Oxford, U.K. (September 2016), Academy of Management Annual Conference in Atlanta (GA), U.S. (August 2017), and STATA Users' Conference in Florence, Italy (November 2017). Furthermore this study has benefitted significantly from comments by two anonymous reviewers and the special issue editorial team. The usual disclaimer applies.

Disclosure statement

No potential conflict of interest was reported by the author.

Supplementary material

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Notes

[1] Moore cents are never re provide full-term sta

[2] With respect to the prosecution costs at the USPTO from start until patent issue, in 2000 Lemley (2001) estimated a lower bound of $ 10 thousand and upper bound $ 30 thousand in current values, which in terms of 2015 prices amount to $ 13 thousand and $ 40 thousand respectively. In 2015, the USPTO issued about 300 thousand utility patents, which means an overall range in prosecution costs of between $ 4 and 12 billion.

[3] In the marketing literature, brand equity encompasses not only its value but also the brand meaning and strength (For a fuller discussion on the concept of brand equity see the survey by Srinivasan, Hsu, and Fournier 2012).

[4] For recent surveys of the IP signaling theory in the context of entrepreneurial financing see Gambardella (2013), Hall (2019) and Hall and Harhoff (2012).

[5] Furthermore, it has been found that patenting attracts financing from prominent VCs who contribute with a larger share of non-financial capital (Hsu and Ziedonis 2013). Although patents are valuable signals for new investors but not old ones (Conti, Thursby, and Thursby 2013), only patents held by the inventor prior to the first round of financing have the biggest signaling value (Hoenen et al. 2014), and the intensity of the signal lessens with the number of patents (Mann and Sager 2007).

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[9] Another criterion for approval of the registration of a mark is that the application should not be deceptive and contrary to law or morality.

[10] It is noteworthy that the assumption of monotonicity of non-increasing benefits R – given the non-decreasing fee costs C – is sufficient but not necessary for the validity of Equation (2), which is required to hold solely in the neighbourhood of the optimal renewal age. In particular, there is a time $\dot{T}$ for which $R_{tj} - C_{tj} > 0$ for $t < \dot{T}$ and $R_{tj} - C_{tj} < 0$ for $t > \dot{T}$, where $\dot{T}$ is the last age which the patentee pays the renewal fees. Hence, the net revenues may be increasing in some periods before $\dot{T}$.

[11] See Lanjouw (1998) for Germany, Schankerman (1998) for France, Deng (2007) for Belgium and Austria, and Grönqvist (2009) for Finland.

[12] At the USPTO, the renewal fees for small patenting entities are halved, and under strict conditions patent expiration due to unpaid fees could be invalidated. For fuller details see Moore (2005).

[13] Limiting the analysis to these European economies does not hamper the sample coverage at the European level because they represent a sufficiently large market to attract the lion's share of the EPC designation and renewal decisions. With respect to the above cohorts, around 83.8%, 94.4%, and 87.3% of European patents have designat Stat 2016). Furthern riod in the largest E tat 2016).

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[19] The Maintenance Fee Events File is accessible at www.google.com/googlebooks/uspto-patents-maintenance-fees.html .

[20] A complete list of sources for the historical fee cost schedules is available upon request to the author.

[21] While strict equivalents are patent filings including exactly the same priorities or combination of priorities, an INPADOC patent family constitutes a self-contained and consolidated group of priority links including any direct or indirect priority link. For more information on the patent family definition see Martinez (2011).

[22] See Lanham Act § 2.

[23] See Lanham Act § 1(a).

[24] At the USPTO, a prior application or registration in a foreign jurisdiction or under the Madrid Protocol system could serve as the legal basis for filing a trademark application, without the requirement of declaration of 'use in commerce' as of the filing date. Foreign priorities used as legal basis at filing are a relatively rare event in the population of the U.S. trademark filing (For more information see Graham et al. 2013).

[25] See Lanham Act § 1(b, d).

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[27] This d erse of U.S. federal r d priority, descripti , and other procedu

[28] Du 7% of the regist

[29] An ex dology and related i presented in Appendi

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[31] Several visual inspections revealed that the textual similarity across the portfolio of patents and trademarks originated from: a) discriminating token(s) in the patent title and wordmark; b) combination of non-discriminating tokens from a patent title, that could appear in one single wordmark or in combination of wordmarks in distinct trademarks (within the same portfolio); c) one single and non-discriminating token from a patent title repeated in many trademarks from the same portfolio, which can be assimilated to umbrella branding.

[32] This assumption is broadly consistent with the time lag between a firm's first patent and its trademark, as shown in Appendix A of the Supplementary Material: seven out of ten of the firms that obtain patents and trademarks start both IP strategies within three years of each other, while half of them are contemporaneous first-time filers (within a year) of a patent or trademark.

[33] As the U.S. joined the Hague Agreement Concerning the International Deposit of Industrial Designs, the statutory limit of protection for design patents filed on or after 13 May 2015 is 15 years since the date of patent issuance, while applications filed before that date benefit from only 14 years of protection. For a discussion of the procedural aspects of the Hague system see Beebe (2017).

[34] This provision is unavailable in the case of a legal dispute over a utility patent or tradema

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[37] In starting with the appl the applicati ller presenta

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[39] Twelve dummies of the year-technology interaction effects computed at the two digit classification could not be identified, and hence they were aggregated to the left-out category in the regression analysis.

[40] Although according to the Trademark Manual of Examining Procedure (TMEP § 1202.01, available at tmep.uspto.gov) trade naming does not constitute a demonstration of the use requirement of the Lanham Act, it is suitable for trademark protection through the common law system, when it is also employed as a product or service name in the marketplace. Thus, a patent titled with the trade name could be indicative of a common law trademark owned by the patentee. In fact, this protection strategy could be sought by younger firms and those with a limited number of product lines (See discussion in Appendix A of the Supplementary Material).

The finding that a trade name shown in the patent title does not enhance patent valuation above and beyond the patent-trademark pairing obtained through the U.S. federal registration system does not contradict the assumption advanced by Dinlersoz et al. (2018), who claimed that the potential selection and treatment effects of the trademarking decision on firm performance arising from the common law trademarks are similar to the federal registered ones (For more details see section 4.2.).

[41] For example, the patentability of a design could be mitigated by the functionality principle pretation this prin

[42] This a n methods relying c hod. For a fuller pre ethods see Cameron

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Patents, Thickets, and the Financing of Early-Stage Firms: Evidence from the Software Industry
Source: National Bureau of Economic Research
Trademark Law: An Economic Perspective
Source: University of Chicago Press
How Valuable is Patent Protection? Estimates by Technology Field
Source: Wiley-Blackwell
Patent Statistics as an Innovation Indicator
Source: Elsevier
Consumer learning and heterogeneity: Dynamics of demand for prescription drugs after patent expiration
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Does patenting help high-tech start-ups?
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Text matching to measure patent similarity

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The diminishing signaling value of patents between early rounds of venture capital financing

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Spillover effects, cost savings, R&D and the use of brand extensions

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Foreign entry and survival in a knowledge-intensive market: emerging economy countries' international linkages, technology competences, and firm experience

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Composite value index of trademark indicators

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Product portfolio performance in new foreign markets: The EU trademark dual system

Source: Zenodo

The Value of Innovation: The Interaction of Competition, R&D and IP*

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Creating New Brand Names: Effects of Relevance, Connotation, and Pronunciation

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The product market and the market for “ideas”: commercialization strategies for technology entrepreneurs

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Source: Zenodo

The USPTO Trademark Case Files Dataset: Descriptions, Lessons, and Insights

Source: Wiley-Blackwell

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Trade mark cluttering-evidence from EU enlargement

Source: Oxford University Press (OUP)

Patents, venture capital, and software start-ups

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Selling patents at auction: an empirical analysis of patent value

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OECD Patent Statistics Manual

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Source: Elsevier BV

The value of European patents

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Trademarks, specialized complementary assets, and the external sourcing of innovation

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