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Articles

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

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ABSTRACT

The benefits of an IP strategy for an innovative project that combines both patenting and trademarking are compared to those of patenting alone. The results of the proposed econometric analysis of patents indicate that a strategy that pairs patenting and trademarking almost doubles patent value. The validity of this result was confirmed by examining several patentee demographic characteristics and an extensive set of patent value indicators regarding breadth and technology potential, prior art and patent background, filing and procedural aspects of a patent and IP usage mode. Quite interesting, when the holder of a utility patent also obtains a design patent, rather than opting for a trademark, there is no enhancement of the premium value.

KEYWORDS:

Patenting and trademarking | cross-national renewal decisions | combined IP strategy | patent-trademark pair

JEL:

G32 | M31 | O31 | O32 | O34

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Supplementary material

Supplemental data for this article can be accessed here.

Correction Statement

This article has been republished with minor changes. These changes do not impact the academic content of the article.

Notes

[1] Moore (2005) documents that at the USPTO about 16 percent of utility patents are never renewed after they have been granted, and only 46 percent of them provide full-term statutory protection.

[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).

[6] An analyst claimed that ‘it is no coincidence that many of the world’s best known and most valuable brands have other IP traits in common: their reputation for quality, innovation, and consistency not only facilitates product sales and shareholder interest, but also enhances the value of their patents.’ (Berman 2008, interviewed in IP Close UP, 15 November 2012).

[7] See Landes and Posner (1987) and Beebe and Fromer (2018) for a discussion on different types of trademarks.

[8] The AIPLA survey (2015) estimated that the attorney’s fee for a typical trademark application in 2010 amounted to $ 3,050. Other costs involved in design search could

increase this expenditure. In terms of office fees, the 2010 USPTO schedule included trademark application and statement of use fees of about $ 475 per international class, which means $ 665 for a typical trademark with 1.4 international classes. However, these are lower bound procedural fees at the PTO, and other costs would be incurred for ‘intent-to-use in commerce’ applications or more complex trademark filings. Hence, on average, trademark attorney and office fees could amount to $ 4,000–5,000.

[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 designations in France, Germany, and the United Kingdom respectively (PatStat 2016). Furthermore, patents are maintained for a statistically significant longer period in the largest European economies than in the other EPC member countries (PatStat 2016).

[14] This year is also the time reference for the exchange rate of European patent legislation fees in PPP U.S. dollars.

[15] The empirical investigation assessed the robustness of the results by considering a GDP deflator at the national level instead of for the service sector alone.

[16] As a robustness check, I relaxed this depreciation assumption and used higher levels of the depreciation rate.

[17] Given the importance of the United States as a locus of R&D activities, I do not think that limiting the analysis to the patented inventions owned by U.S. patentees is a serious drawback.

[18] The direct priority links were garnered from the PatStat (2016).

[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).

[26] For a broader discussion of the differences between common law trademarks and federally registered trademarks in the U.S. see Graham et al. (2013).

[27] This data source collects complete bibliographic information on the universe of U.S. federal mark registrations from 1978 up to 2015, including date of filing and priority, description of a mark in terms of goods and services, sectoral classification, and other procedural information (Graham et al. 2013).

[28] During the time period covered by the analysed dataset (1982–1998) 95.7% of the registrations include textual information and 68.3 relied only on text.

[29] An extensive discussion of the string similarity J^w index, matching methodology and related implementation in the case of patent and trademark documents is presented in Appendix A of the Supplementary Material.

[30] For a battery of examples see Appendix Table 3.

[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 trademark (Burstein 2016; Lemley 2013).

[35] In addition to the title of the design patent application, the patentee must provide drawings and/or photographs depicting the characteristics of the design in order to obtain patent protection.

[36] For 42 patents invented by the U.S. business patentees, I could not identify bibliographic information or patentee demographics.

[37] In terms of the renewal fee payment, I computed the present value rule starting with the application year both for the U.S. and EPC patents and did not consider the application and grant fees in the value computations. See section 3 for a fuller presentation.

[38] The continuous indicators were detrended for time and technology effects, using the geometric mean method.

[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. See Beebe (2017) for a full discussion of the application and interpretation this principle in case of designs.

[42] This average difference estimate is the mean of two alternative prediction methods relying on the normal distribution assumption and the so-called Duan's method. For a fuller presentation of the implementation of average difference prediction methods see Cameron and Trivedi (2010).

[43] Furthermore, I executed a pairwise correlation analysis of the patent-trademark pairs computed as binary variables at different thresholds of the similarity distribution of the

J^w index with the log number of forward citations, and I confirm a positive Pearson's coefficient even at a one percent level of significance.

Related Research Data

Trademark Law: An Economic Perspective
Source: The Journal of Law and Economics
How Valuable is Patent Protection? Estimates by Technology Field
Source: The RAND Journal of Economics
Patent Statistics as an Innovation Indicator
Source: Unknown Repository
Consumer learning and heterogeneity: Dynamics of demand for prescription drugs after patent expiration
Source: International Journal of Industrial Organization
Does patenting help high-tech start-ups?
Source: Research Policy
Why do SMEs file trademarks? Insights from firms in innovative industries
Source: Research Policy
Patents, Thickets and the Financing of Early-Stage Firms: Evidence from the Software Industry