

CIGI Papers No. 166 – April 2018

The Evolving Patent Pledge Landscape

Jorge L. Contreras



Centre for International
Governance Innovation

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About the Author

Jorge L. Contreras is a senior fellow with the International Law Research Program at CIGI, a professor of law at the University of Utah's S. J. Quinney College of Law and a senior policy fellow in the Program on Information Justice and Intellectual Property at American University Washington College of Law. He writes and speaks frequently on topics including technical standards, patent litigation and antitrust law.

Jorge serves as a member of the American National Standards Institute Intellectual Property Rights Policy Committee and as a member of the National Institutes of Health's (NIH) Council of Councils. He has previously served as co-chair of the American Bar Association's (ABA) Technical Standardization Committee, as co-chair of the National Conference of Lawyers and Scientists, and as a member of the Advisory Council of the NIH's National Center for Advancing Translational Science and the National Advisory Council for Human Genome Research.

He has edited several books, including the ABA's *Technical Standards Patent Policy Manual* (ABA Publishing, 2007); *Patent Pledges: Global Perspectives on Patent Law's Private Ordering Frontier* (Edward Elgar, 2017) (with Meredith Jacob); and the *Cambridge Handbook of Technical Standardization Law* (two volumes) (Cambridge University Press, 2017).

Jorge's work has appeared in publications including *Science*, *Nature*, *Georgetown Law Journal*, *North Carolina Law Review*, *American University Law Review*, *Antitrust Law Journal*, *Telecommunications Policy*, *Berkeley Technology Law Journal*, and *Harvard Journal of Law and Technology*. He is the founding editor of the Social Science Research Network's *Law, Policy and Economics of Technical Standards* e-journal, and was the winner (with co-authors) of the Standards Engineering Society's 2011 and 2015 scholarly paper competitions.

In addition to his academic work, Jorge has represented select clients, including the Internet Engineering Task Force, on matters relating to technology licensing and standards, and has served as a testifying expert and arbitrator in complex international intellectual property disputes. Prior to entering academia, he was a partner in the Boston; Washington, DC; and

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About the ILRP

The International Law Research Program (ILRP) at CIGI is an integrated multidisciplinary research program that provides leading academics, government and private sector legal experts, as well as students from Canada and abroad, with the opportunity to contribute to advancements in international law.

The ILRP strives to be the world's leading international law research program, with recognized impact on how international law is brought to bear on significant global issues. The program's mission is to connect knowledge, policy and practice to build the international law framework — the globalized rule of law — to support international governance of the future. Its founding belief is that better international governance, including a strengthened international law framework, can improve the lives of people everywhere, increase prosperity, ensure global sustainability, address inequality, safeguard human rights and promote a more secure world.

The ILRP focuses on the areas of international law that are most important to global innovation, prosperity and sustainability: international economic law, international intellectual property law and international environmental law. In its research, the ILRP is attentive to the emerging interactions among international and transnational law, Indigenous law and constitutional law.

Acronyms and Abbreviations

DOJ	US Department of Justice
DPL	Defensive Patent License
EcoPC	Eco-Patent Commons
FRAND	fair, reasonable and non-discriminatory
FTC	Federal Trade Commission
IP	intellectual property
LOT	License on Transfer
NPEs	non-practicing entities
PAE	patent assertion entity
SDOs	standards-development organizations

Executive Summary

Patent pledges — public commitments to limit the enforcement or other exploitation of one’s patent rights — are increasing in popularity in a range of market sectors, from telecommunications and software to biopharma and green technology. Following initial work that sought to classify and understand patent pledges as a distinct category of firm behaviour, the author and collaborators have identified a range of recent developments in the evolution of patent pledges. These include increasing structural complexity and sophistication of patent pledges, a richer set of motivations leading firms to pledge patents, increased attention to the role that patent pledges play in innovation and on the governance of collective pledges, and a trend toward democratization and internationalization of pledge behaviour.

Introduction

In a story that is now well-known in patent and technology circles, in 2014, Elon Musk, the charismatic CEO of Tesla Motors, wrote a blog post humorously titled, “All Our Patent Are Belong To You,” in which he announced (quite seriously) that the electric vehicle pioneer would no longer assert its large patent portfolio against “anyone who, in good faith, wants to use our technology.”¹ Musk, who was far from acting irrationally, wished to create a “safe space” in which the embryonic electric vehicle industry could thrive, particularly in the face of overwhelming competition from conventional auto makers. Tesla’s announcement shone a spotlight on the phenomenon of patent pledges: public commitments that patent holders voluntarily make to limit the enforcement or other exploitation of their patent rights.²

Although infrequently discussed more than a few years ago, patent pledges are far from new. For several decades, participants in standards-

development organizations (SDOs) have voluntarily committed to make their patents (at least those that are essential to industry standards) available to the market on terms that are royalty-free, or that bear only “fair, reasonable and non-discriminatory” (FRAND) royalties. Beginning in the 1990s, computer and software vendors began to pledge that they would not assert their patents against open source code developers, helping to promote open source platforms such as Linux and Android. These efforts demonstrated that business models based on tight control over, and monetization of, patents are not the only viable pathways to innovation and product development. Patent pledges, occupying a middle ground between the public domain and full patent enforcement, serve valuable market functions for firms wishing to induce others to adopt a common industry platform or standard, or to invest in products that operate in a new technology space (for example, electric vehicles, open source code, or a particular flavour of wireless communication protocol). Pledges thus reduce potential barriers to market entry and foster innovation on top of new technology infrastructures: effects that benefit both the owner of the patented technology and those who develop on top of it.³

Despite these roots and extensive legal and economics literature addressing phenomena such as technical standardization and open source development, the formal study of patent pledges as a distinct category of firm behaviour did not begin until about 2012. In February of that year, Microsoft, Google and Apple each released a public statement clarifying and amplifying FRAND commitments that they had previously made to an SDO. These statements were issued, either as letters or as public website statements, in order to address concerns raised by the US Department of Justice (DOJ) in its investigation of patent acquisitions proposed by

1 Elon Musk, “All Our Patent Are Belong To You” (12 June 2014), *Tesla* (blog), online: <www.teslamotors.com/blog/all-our-patent-are-belong-you>.

2 Jorge Contreras & Meredith Jacob, eds, *Patent Pledges: Global Perspectives on Patent Law’s Private Ordering Frontier* (Cheltenham, UK: Edward Elgar, 2017) at 546.

3 Jonathan Barnett, “The Host’s Dilemma: Strategic Forfeiture in Platform Markets for Informational Goods” (2011) 124:8 *Harv L Rev* 1861; Jorge Contreras, “Patent Pledges” (2015) 47:3 *Ariz St LJ* 543 [Contreras, “Patent Pledges”].

each company and were eventually relied upon by the US DOJ in approving those transactions.⁴

Then, in 2013, a dispute between Microsoft and Google regarding the licensing commitments allegedly made by Microsoft with respect to its Exchange ActiveSync mobile messaging protocol prompted a number of articles by legal scholars, practitioners and economists.⁵ These articles sought to apply the reasoning of SDO-based FRAND commitments to patent licensing and other commitments made outside the SDO context. The discussion occasioned by this dispute also prompted the author of this paper, together with colleagues at American University Washington College of Law, to begin collecting samples of non-SDO patent pledges, to preserve them against deletion and alteration, and to make them publicly available. They created what is now known as the Patent Pledge Database, which today summarizes and provides links to nearly 200 different patent pledges from a range of industry sectors.⁶

In October 2013, Danny Sokol, a professor at the University of Florida, referring to “the next frontier in the FRAND wars,” hosted an online symposium on the topic of “Non-SSO Patent Commitments and Pledges” via the *Antitrust &*

Competition Policy Blog.⁷ This was one of the first public fora to identify patent pledges as a distinct phenomenon. Recognizing the gap in scholarship in the emerging area of patent pledges, in May 2014, American University invited legal and economics scholars, government officials and private sector representatives to a workshop in which a public research agenda for patent pledges was discussed.⁸ This workshop led to a public symposium in 2015, in which scholars from around the world shared their work relating to patent pledges.⁹ Many of the papers presented at the symposium were collected and published in a book.¹⁰

As noted in this work, pledges today have expanded well beyond software and telecommunications into fields such as biotechnology, green technology and e-commerce. They also cover far more types of conduct involving patents than simple non-assertion and FRAND licensing, including restrictions on transfer, limitations on injunctive relief and caps on royalties. But even in the last few years, the market has observed a number of emerging developments in the field of patent pledges. Accordingly, in September 2017, another patent pledges workshop was convened at American University (the “Evolving Pledges Workshop”).¹¹ The participants in this workshop, which included legal scholars, economists, practising attorneys and industry representatives, shared information regarding the current state of patent pledges, and sought to identify and understand trends in the ongoing evolution of patent pledges.

This paper is divided into four parts: the first part describes structural changes that have recently been observed in patent pledges, from

4 Jorge L Contreras, “Good Things Come in Threes? DOJ, FTC and EC Officials Wax Eloquent About FRAND” (29 October 2012) *Patently-O* (blog), online: <<https://patentlyo.com/patent/2012/10/good-things-come-in-threes-doj-ftc-and-ec-officials-wax-eloquent-about-frand.html>>; US DOJ, “Statement of the Department of Justice’s Antitrust Division on Its Decision to Close Its Investigations of Google Inc.’s Acquisition of Motorola Mobility Holdings Inc. and the Acquisitions of Certain Patents by Apple Inc., Microsoft Corp. and Research in Motion Ltd.” (13 February 2012), online: <www.justice.gov/opa/pr/2012/February/12-at-210.html>.

5 John D Harkrider, “REPs Not SEPs: A Reasonable and Non-Discriminatory Approach to Licensing Commitments”, *CPI Antitrust Chronicle* (1 October 2013), online: <http://awards.concurrences.com/IMG/pdf/harkrider_reps_not_seps.pdf>; Nadia Soboleva & Lawrence Wu, “Standard Setting: Should There Be a Level Playing Field for All FRAND Commitments?”, *CPI Antitrust Chronicle* (15 October 2013), online: <www.competitionpolicyinternational.com/standard-setting-should-there-be-a-level-playing-field-for-all-frand-commitments/>; Anne Layne-Farrar, “Moving Past the SEP RAND Obsession: Some Thoughts on the Economic Implications of Unilateral Commitments and the Complexities of Patent Licensing” (2014) 21:4 *Geo Mason L Rev* 1093; Einer Elhauge, “Treating RAND Commitments Neutrally” (2015) 11:1 *J Competition L & Economics* at 1–22.

6 See Patent Pledge Database, online: <www.pijip.org/non-sdo-patent-commitments/>. This database is overseen by the author of this paper and maintained at American University Washington College of Law, Program on Information Justice and Intellectual Property. The Patent Pledge Database, which is the only public resource devoted to patent pledges made outside of SDOs, identifies each firm making a pledge, the date of the pledge, the patents, technologies and standards covered, the nature of the pledge and its online location. At the time of writing, nearly 200 different non-SDO patent pledges covering thousands of patents, including all of the pledges discussed in this paper, have been catalogued in the Patent Pledge Database.

7 D Daniel Sokol, “Non-SSO Patent Commitments and Pledges Symposium: Recap” (17 October 2013), *Antitrust & Competition Policy Blog* (blog), online: <http://lawprofessors.typepad.com/antitrustprof_blog/2013/10/non-sso-patent-commitments-and-pledges-symposium-recap.html> (this event was supported by Google).

8 “Patent Pledges: Developing a Research Agenda” (Event hosted at American University Washington College of Law, 30 May 2014), online: <www.pijip.org/events/patent-pledges-setting-a-research-agenda/> (all patent pledge-related events at American University were supported by a generous grant from Google).

9 “Patent Pledges Symposium 2015” (Event hosted at American University Washington College of Law, 12 June 2015), online: <www.pijip.org/events/patent-pledges-symposium-2015/>.

10 Contreras & Jacob, *supra* note 2.

11 “Patent Pledges – Looking Forward” (Event hosted at American University Washington College of Law, 14 September 2017), online: <www.pijip.org/events/patent-pledges-looking-forward/>.

their increasing legal sophistication to a greater emphasis on the enforceability of pledges made to the public. The second part explores the motivations that lead firms to make patent pledges using the taxonomy established by Jorge Contreras,¹² but with reference to evolving understandings of why pledges are made. The third section ties patent-pledging activity to recent academic discussions of innovation theory and policy and explores how patent pledges can enhance market-wide innovation. The fourth part examines recent work regarding the governance of patent pledges, including proposed state interventions relating to pledge disclosure. The fifth section addresses additional market trends that are beginning to emerge in the area of patent pledges, including drives toward empirical understanding of pledges and pledged patents, as well as increased popular interest in, and support of, patent-pledging activity.

Structural Evolution of Patent Pledges

Increasing Legal Sophistication

Despite its simplistic appeal, Musk's initial Tesla pledge that "all our patent are belong to you" did not last long.¹³ It was replaced on Tesla's website by a more sophisticated and legalistic document about a year later.¹⁴ The updated Tesla pledge now fills many of the gaps pointed out by critics shortly after the company's original post was released.¹⁵ For example, commentators made much of Tesla's lack of definition around the term "good faith," which determined whether or not a competitor could safely operate under a pledged Tesla patent. That ambiguity is now largely resolved through a lengthy definition in the updated pledge. Tesla's move toward a more

legally robust pledge echoes the actions of many other companies that are making patent pledges.

Another significant patent pledge "upgrade" was recently made by Red Hat, a major distributor of Linux-based open source code products. Red Hat was an early adopter of patent pledges, making its first "patent promise" in 2002.¹⁶ In September 2017, Red Hat substantially expanded the coverage of its patent promise,¹⁷ whereas under its 2002 pledge, the company committed not to assert its patents against software licensed under any one of six open source licences (for example, the GNU General Public License and the IBM Public License). Red Hat expanded this commitment in 2017 to software licensed under any licence recognized by the Open Source Initiative or Free Software Foundation, which the company claims constitutes 99 percent of all open source software.¹⁸ In addition, Red Hat claims that its new patent promise is "substantially clearer" than its prior version.

For patent holders seeking advice on making their pledges more legally binding and less ambiguous, Meredith Jacob offers a set of "best practices" for drafting patent pledges in her recent book with Contreras.

Pledged from Birth

Traditionally, patent pledges were made by companies that had already accumulated large patent portfolios and wished to apply limitations to some of those patents. Pledged patents were often listed or described specifically.¹⁹ Today, an increasing number of patents are "pledged at birth" — subject to their owners' patent pledges as soon as they are issued. This is a feature, for example, of Red Hat's latest patent pledge, which covers its entire portfolio of more than 2,000 patents, as well as all future patents to enter the portfolio.

12 Contreras, "Patent Pledges", *supra* note 3.

13 Elon Musk, of course, is not the only corporate officer to make a casual and imprecise patent pledge. See Contreras, "Patent Pledges", *supra* note 3 at 571–72 (describing public pledges made orally or in interviews by corporate officers).

14 Tesla, "Legal", online: <www.tesla.com/about/legal#patent-pledge> (reproduced in Contreras & Jacob, *supra* note 2, Appendix 1).

15 Julius Melnitzer, "Beware Tesla Motors Inc CEO Elon Musk's patent pledge, say experts", *Financial Post* (29 July 2014), online: <<http://business.financialpost.com/legal-post/tesla-motors-inc-patents-warning>>.

16 Red Hat's 2002 patent promise is no longer accessible on its website, but may still be viewed on the Patent Pledge Database, *supra* note 6. It is also reproduced in Contreras & Jacob, *supra* note 2, Appendix 6.

17 Red Hat, "Red Hat's patent promise" (21 September 2017), online: <www.redhat.com/en/about/patent-promise>.

18 Patrick McBride, "Red Hat's Patent Promise" (2017), *LOT Network IP Strategy Blog* (blog), online: <<http://lotnet.com/red-hats-patent-promise/>>.

19 Contreras, "Patent Pledges", *supra* note 3 at 555–56.

Enforceability of Patent Pledges

Patent pledges are promises made by patent holders without many formal characteristics of a contract: they are not signed by the beneficiary of the pledge, there is no express consideration paid by the beneficiary and often the beneficiary is not even known to the pledgor. As such, questions exist regarding the enforceability and binding nature of patent pledges.²⁰ In the standard-setting context, some pledges are incorporated into an SDO's membership agreement or policy documentation, giving them at least a veneer of contractual formality. But many pledges (including many pledges made within the standard-setting context) are not formalized in any signed document and are merely posted on the pledgor's website or otherwise disseminated to the public. The binding effect of these pledges is thus largely dependent on principles of equity: estoppel and reliance.²¹

In order to bolster the legal effect of their pledges, some pledgors have sought to assure the market that they intend their pledges to be binding and enforceable, and that market actors should be comfortable relying on these pledges in making investment decisions. Red Hat, in its 2017 patent promise, offers such assurances, explicitly stating, in response to a question in its accompanying FAQ, that "Red Hat intends the Promise to be binding and enforceable."²²

Microsoft, in its Azure IP Advantage program,²³ offers a range of innovative benefits to customers of its Azure cloud services.²⁴ These include the right to pick one of approximately 10,000 Microsoft patents that Microsoft will transfer to the customer for purposes of assertion in litigation and a "springing" licence that will come into effect if Microsoft transfers a patent to a patent assertion entity (PAE). However, because these rights are

granted only to Microsoft Azure customers,²⁵ the Azure IP Advantage program begins to resemble a true contractual arrangement between Microsoft and its customers. That is, even though the program is set out in a free-standing document that is separate from the customer's Azure service agreement, it would likely constitute part of the contractual bargain between the parties. Moreover, as the Azure program's benefits are not extended to the public at large, and because Microsoft arguably receives compensation in exchange for the benefits granted to Azure customers, this type of arrangement may move out of the realm of patent pledges and into the broader realm of patent licences and agreements. Given the complexity of Microsoft's Azure IP program, this additional level of formality is likely warranted. It remains to be seen whether other companies will follow Microsoft's lead and move toward a more formal contractual framework to extend pledge-like benefits to selected third parties.

Motivating Patent Pledges

By making a patent pledge, a patent holder voluntarily relinquishes a potentially valuable right without express compensation. But far from being irrational, this behaviour is typically supported by strong economic motivations. Contreras²⁶ develops a four-part taxonomy to classify the motivations that underlie patent-pledging behaviour.²⁷ These include:

Category 1: inducement — lowers patent barriers to induce market participants to adopt a particular standard or technology platform that is favoured by the pledgor.

Category 2: collective action — advances the achievement of a collective goal that is beneficial to the pledgor.

20 For a discussion of the range of theories supporting the enforcement of patent pledges, see Jorge L Contreras, "A Market Reliance Theory for FRAND Commitments and Other Patent Pledges" (2015) 2015:2 Utah L Rev 479 [Contreras, "Market Reliance"].

21 Contreras, "Patent Pledges", *supra* note 3.

22 McBride, *supra* note 18.

23 "Microsoft Azure IP Advantage Benefit Terms and Conditions", online: <<https://cloud-platform-assets.azurewebsites.net/azure-ip-advantage/>> ["Microsoft Azure"].

24 The cloud services industry has given rise to a number of interesting developments relating to patent pledges, both by Microsoft and other firms including Amazon. See Liza Vertinsky, "The Role of Patent Pledges in the Cloud" in Contreras & Jacob, *supra* note 2, ch 15, for a discussion of many of these developments.

25 A "qualified customer" is a customer that has paid Microsoft at least US\$1,000 per month during the preceding three-month period for Azure software or services.

26 Contreras, "Patent Pledges", *supra* note 3 at 547–48, 572, 592.

27 Clark Asay proposes an interesting corollary to these motivations arising from the informational value of patent pledges. Clark D Asay, "The Informational Effects of Patent Pledges" in Contreras & Jacob, *supra* note 2, ch 13.

Category 3: voluntary restraint — restrains the pledgor’s ability to assert its patents, often addressing concerns of governmental authorities.

Category 4: philanthropic — advances a social cause or other public good with concomitant public relations benefits to the pledgor.

Category 1: Inducement Pledges

Inducement pledges are the most common in today’s environment.²⁸ By making such pledges, a patent holder seeks to lift patent barriers that might otherwise deter market participants from engaging in activity that could be beneficial to the patent holder. The three principal types of inducement pledges are those directed toward interoperability (in which the pledgor benefits from having a broad array of products on the market with which its own products can interact); platform leadership (in which the pledgor seeks to induce others to develop products that are compatible with the pledgor’s proprietary platform (for example, the Apple iOS and Microsoft Windows operating systems); and market development (in which pledges are made to promote the broad adoption of a nascent or emerging platform technology, generally one in which the patent holder is a leader (for example, the electric vehicle ecosystem promoted by Tesla).

The idea that rights holders may relinquish or relax certain of their rights in order to achieve gains elsewhere is not a new one. As Richard Gilbert explains in the context of patent pools, “vertically integrated patentees may settle for low or even zero royalties in return for rapid adoption of their preferred technologies and speedier or more effective market entry.”²⁹ There is, in fact, a sizeable literature concerning the economic incentives that lead firms to “give away” valuable intellectual property (IP) to achieve other gains,³⁰ especially in the context of standards development.³¹ Jonathan Barnett addresses these issues in the context of platform markets, in which strategic

forfeiture of patent rights can be an effective strategy for increasing market share.³² Each of these motivations appears to continue to be a significant driving force behind patent pledges today.

Category 2: Collective Action Pledges

Collective action motivations for patent pledges have seen a marked increase in recent years. In this scenario, the patent holder does not stand to gain a unique advantage from the relinquishment of its patent rights through pledging. Rather, pledges motivated by collective action principles are perceived to benefit an entire community or industry, but only if a significant portion of the community adheres to the pledge. The most salient example of such pledges today relates to the sale of patents to PAEs.³³ It is perceived by many, particularly those in the software industry, that non-practicing entities (NPEs) are responsible for costly and unmeritorious patent litigation.³⁴ As a result, firms in the computing and telecommunications sectors have sought to use patent pledges to reduce the supply of patents to NPEs. Pledges not to transfer patents to NPEs, or to terminate licences upon such transfers, are useful to the pledgor only to the extent that others make similar pledges. Thus, like inducement pledges, collective action pledges are made primarily to encourage action by others; not the adoption of a common standard or technology platform, but the making of a similar patent pledge.

Several highly publicized coordinated pledges³⁵ have arisen to address the transfer of patents to PAEs. These include two outwardly similar initiatives launched in 2014: the Defensive Patent

28 Contreras, “Patent Pledges”, *supra* note 3 at 573.

29 Richard J Gilbert, “Ties that Bind: Policies to Promote (Good) Patent Pools” (2010) 77:1 *Antitrust LJ* 1 at 19.

30 Jonathan Barnett, “The Costs of Free: Commodification, Bundling and Concentration” (2017) USC Gould Center for Law and Social Science Research Papers Series No CLASS17-9.

31 David J Teece & Edward F Sherry, “Standards Setting and Antitrust” (2005) 87:6 *Minn L Rev* 1913 at 1954–55.

32 Barnett, *supra* note 3.

33 Patent assertion entities generally acquire and hold patents for the primary purpose of seeking licensing revenue and asserting them in litigation, which is often perceived as without significant merit. See generally Federal Trade Commission (FTC), *Patent Assertion Entity Activity: An FTC Study*, online: <www.ftc.gov/reports/patent-assertion-entity-activity-ftc-study>. Some pledges speak in terms of NPEs, which are all entities that do not themselves practise the patents they hold. NPEs constitute a broader class of entities than PAEs, as they include universities, individual inventors and the like. NPEs that are not PAEs are typically viewed as less problematic from an overall market welfare standpoint. See *ibid*.

34 *Ibid*.

35 Contreras, “Patent Pledges”, *supra* note 3 at 565.

License (DPL),³⁶ and Google's License on Transfer (LOT)³⁷ Network. Interestingly, participants at the Evolving Pledges Workshop assessed the success of these two pledge communities quite differently. The DPL, which attracted significant attention when launched, has not been widely adopted in the industry.³⁸ Several reasons were suggested for the lacklustre take up of the DPL, including the requirement that participants pledge their entire patent portfolios (a potential deterrent for large patent holders), and the limited effect of the pledge against non-participants (for example, PAEs that acquire patents from DPL members may not assert those patents against other DPL members, but may assert them against others).³⁹ Perhaps most importantly, the DPL pledge prohibits a DPL member from asserting its patents against another DPL member, except defensively, thereby limiting the strategic value of the patent to its owner.⁴⁰

In contrast, Google's LOT Network has attracted significant participation, with approximately 180 members and 180,000 pledged patents as of November 2017.⁴¹ The success of the LOT can be attributed to several factors, including that

the non-assertion restrictions under the LOT apply only to PAEs and not to LOT members themselves. Thus, unlike DPL members, LOT members are not prohibited from asserting their patents against other members.⁴² Additional important differences between the DPL and the LOT Network arise from their differing governance structures, discussed in the fourth section, below.

It is important to note that both the DPL and the LOT address only a single type of behaviour that is sought to be deterred: the transfer of patents to PAEs. There are many other reasons that patents are pledged, as evidenced by the fact that members of both DPL (for example, Blockstream) and the LOT (for example, Google and Red Hat) maintain their own pledge commitments above and beyond any obligations to these networks.

Category 3: Voluntary Restraint Pledges

Voluntary restraint pledges can be described as those made to demonstrate to an external observer, whether a governmental enforcement agency or a court, that the pledgor will refrain from certain activities, usually in order to avoid enforcement, investigation or other unfavourable treatment by that authority. Examples of such voluntary restraint pledges have included commitments made by technology developers to the US DOJ and European Commission not to seek injunctions against manufacturers of standardized products and by biotechnology firms not to assert patents against non-competitors such as farmers and academic researchers.⁴³

Recently, the issue of drug pricing in the United States has become a political hot button. Responding to prices for newly approved patented treatments that can approach or exceed US\$1 million per year, state and federal law makers have proposed a range of legislative measures to curb the ability of the pharmaceutical industry to price drugs at allegedly excessive levels.⁴⁴

36 DPL, "The Defensive Patent License", online: <<https://defensivepatentlicense.org>>. See Jason Schultz & Jennifer M Urban, "Protecting Open Innovation: The Defensive Patent License as a New Approach to Patent Threats, Transaction Costs, and Tactical Disarmament" (2012) 26 Harv JL & Tech 26:1; Marta Belcher & John Casey, *Hacking the Patent System: A Guide to Alternative Patent Licensing for Innovators* (2016) at 10–11, online: <www.eff.org/document/hacking-patent-system-2016>.

37 LOT Network, online: <<http://lotnet.com>>. See C Eric Schulman, "How Scalable Private-Ordering Solutions Improve IP Law: Lessons Learned From My Founding of the License on Transfer (LOT) Network", *Social Science Research Network* (30 August 2016), online: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2827904>; David Hayes & C Eric Schulman, "An Updated Proposal for a License on Transfer (LOT) Agreement", *Social Science Research Network* (9 July 2014), online: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2463660>; Belcher & Casey, *supra* note 36 at 12–13.

38 As of November 2017, only three patent holders have registered as members of the DPL: Blockstream, the Internet Archive and John Gilmore, one of the founders of the Electronic Frontier Foundation. See DPL, "Users & Patents", online: <<https://defensivepatentlicense.org/users-and-patents/>>.

39 For additional critiques of the DPL, particularly its original formulation by Schultz and Urban in 2012, *supra* note 36, see David Hayes & C Eric Schulman "A Response to a Proposal for a Defensive Patent License (DPL)", *Social Science Research Network* (27 July 2013), online: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2054314>.

40 Defensive suspension provisions are explained in Jorge L Contreras, ed, *Standards Development Patent Policy Manual* (Chicago, IL: ABA Publishing, 2007) at 62–67. For a critique of such defensive suspension provisions, particularly with respect to community pledges, see Liza Vertinsky, "Hidden Costs of Free Patents" (2018) Ohio St LJ, forthcoming.

41 LOT Network, "The LOT Network Community", online: <<http://lotnet.com/our-community/#member-list>>.

42 Additional considerations regarding the success of the LOT Network are discussed in Ryan Davis, "LOT Network Shows Promise in Limiting 'Patent Troll' Suits", *Law360* (31 October 2017), online: <www.law360.com/articles/979614/lot-network-shows-promise-in-limiting-patent-troll-suits>.

43 Contreras, "Patent Pledges", *supra* note 3 at 588.

44 See e.g. Katie Thomas, "A Look at Major Drug-Pricing Proposals", *New York Times* (29 May 2017); National Academy for State Health Policy, "NASHP's Prescription Drug Cost Workgroup", online: <<http://nashp.org/wp-content/uploads/2016/09/Rx-Legislation-Tracker-8.4.17.pdf>>.

In what appears to be the hope of allaying drastic legislative action, some pharmaceutical companies have made pledges concerning the pricing of their patented drugs. For example, in September 2017, Allergan's CEO Brent Saunders published a "Social Contract with Patients,"⁴⁵ in which he made numerous commitments relating to "innovation, access and responsible pricing ideals."⁴⁶ These commitments include the following: "We commit to making...branded therapeutic treatments accessible and affordable to patients while also ensuring that we can continue to meet our 'invest and innovate' obligation," and "We will not engage in the practice of taking major price increases without corresponding cost increases as our products near patent expiration." While these and the other commitments contained in Allergan's social contract are far from precise, they are no less so than commitments to license patents on terms that are "fair, reasonable and non-discriminatory," which have now been enforced by courts around the world.

Category 4: Mission-oriented (Including Philanthropic) Pledges

Contreras⁴⁷ describes the fourth category of patent pledges as "philanthropic" or directed broadly to the advancement of social causes of public welfare, although also conferring private benefits on pledgors, namely the benefits accompanying overall improvements in the economy or environment and the direct public relations benefits attributable to making such pledges. Since this initial analysis, however, additional motivations for patent pledges have come to light that may warrant a broadening of this category to cover pledges that are aligned with a corporate or social mission that may not, strictly speaking, be philanthropic.

Corporate Social Responsibility

In a recent study of the Eco-Patent Commons (EcoPC),⁴⁸ Contreras, Bronwyn Hall and Christian Helmers determined that the motivation for several large companies to join the EcoPC arose from corporate social responsibility programs, as well as corporate initiatives around sustainability and environmental stewardship. While interviewing representatives of several companies that joined the EcoPC, it became clear that genuine concern for environmental sustainability and a desire to "do the right thing" motivated the formation of this group as much as, or more than, public relations and other benefits that might accrue to the companies.⁴⁹

Employee Expectations

In a different but related vein, in 2013, Twitter adopted an "Innovator's Patent Agreement" in which it made a pledge to its employees. Twitter promised that it would not enforce patents assigned to it by Twitter employees without the relevant employees' consent, other than defensively.⁵⁰ This commitment appears to have as its primary purpose the reassurance of Twitter employees regarding the fate of their inventions, and thus the improvement of employee morale and the fostering of an inclusive and empowering workplace.⁵¹ Similar sentiments were expressed by Red Hat when it released its upgraded "patent promise" in 2017. One Red Hat representative explained that its patent promise "works to assure employees and external innovators working on important new technologies."⁵² (In fact, even Tesla's original

45 Brent Saunders, "Our Social Contract With Patients" (6 September 2016), *CEO Blog* (blog), online: <www.allergan.com/news/ceo-blog/september-2016/our-social-contract-with-patients>.

46 Interestingly, these commitments are made by Allergan CEO Brent Saunders in what appears to be his personal capacity, not on behalf of Allergan itself. He does, however, "convey...to my Allergan colleagues that we must keep this social contract in mind as we make business decisions." Despite these caveats, most of the commitments contained in the social contract refer to "we" (meaning Allergan) rather than "I" (Saunders). Thus, there is an argument to be made that Saunders is, in fact, speaking on behalf of Allergan and that his pledge ought to be legally binding and enforceable against the company. See Contreras, "Market Reliance", *supra* note 20 at 545-46 (discussing the binding nature of informal pledges, including oral statements by company officials).

47 Contreras, "Patent Pledges", *supra* note 3 at 590-91.

48 The EcoPC operated from 2008 to 2016. At its peak, it had 13 member companies that pledged 238 patents for royalty-free use in environmentally friendly applications. Jorge L Contreras, Bronwyn H Hall & Christian Helmers, "Assessing the Effectiveness of the Eco-Patent Commons: A Post-mortem Analysis" CIGI, CIGI Papers No 161, 20 February 2018, online: <www.cigionline.org/publications/assessing-effectiveness-eco-patent-commons-post-mortem-analysis>. This study was sponsored by CIGI.

49 *Ibid.*

50 Adam Messinger, "Introducing the Innovator's Patent Agreement" (17 April 2012), *Twitter Blog* (blog), online: <https://blog.twitter.com/official/en_us/a/2012/introducing-the-innovator-s-patent-agreement.html>.

51 Colleen Chien, "Opening the Patent System: Diffusionary Levers in Patent Law" (2016) 89:4 S Cal L Rev 793 at 845.

52 McBride, *supra* note 18.

patent pledge is believed by some commentators to have had a goal of boosting employee morale.)⁵³

These internally focused goals, while not directly philanthropic or market-driven, are consistent with many technology companies' corporate missions and cultures. While they do not have as direct a financial or market benefit as inducement and other types of patent pledges, improved employee morale could, without a doubt, have a positive effect on a firm's success.

Ethical Licensing

Another form of category 4 patent-related commitment has emerged in the field of biotechnology licensing. In 2007, a group of prominent research universities developed a set of guidelines to reconcile university IP licensing practices with the public missions professed by these universities. The resulting document, *In the Public Interest: Nine Points to Consider in Licensing University Technology*,⁵⁴ addresses a broad range of university IP management and licensing issues, such as the preservation of academic research rights, meeting the medical needs of neglected populations, caution in transferring rights to PAEs and promoting other "fair" IP licensing principles. The *Nine Points* document, which is at its heart a multi-pronged pledge applicable not only to patents but to other forms of university-generated IP as well, has now been signed by more than 100 universities and research institutions around the world.⁵⁵

Universities and other research institutions have taken the prescriptions of the *Nine Points* document, and other public-oriented imperatives, to heart, despite a potential loss of licensing revenue. One prominent example has been in the field of gene editing technology, specifically the ground-breaking CRISPR-Cas9 techniques patented by the Broad Institute (a joint effort of Harvard University and the Massachusetts

Institute of Technology) and the University of California, Berkeley, among others. The Broad Institute, in particular, has sought to introduce a number of socially responsible usage clauses into its licence agreements with private firms including Monsanto and Editas Medicine.⁵⁶ These clauses, for example, prohibit the licensee from using CRISPR technology to modify human embryos or to make tobacco products more addictive.⁵⁷ Again, while these types of licence provisions are not strictly philanthropic in nature, they do hew to the institution's broader social and public goals. For these reasons, in the future it may be more accurate to refer to category 4 pledge motivations as "mission-oriented" rather than "philanthropic."

Patent Pledges and Innovation

Patent pledges have recently become part of the larger academic discussion of innovation policy. Many pledges, particularly those motivated by a pledgor's desire to promote the development of an emerging technology market (category 1: inducement — market development), can encourage innovation in that market.⁵⁸ For example, as noted above, Tesla's 2014 non-assertion pledge can be viewed as a means for encouraging development of the nascent electric vehicle ecosystem and infrastructure. Such development would undoubtedly benefit Tesla, a market leader in electric vehicle production, but could also give rise to innovation in product categories not directly addressed by Tesla,

53 Colleen V Chien, "Beyond Eureka: What Creators Want (Freedom, Credit, and Audiences) and How Intellectual Property Can Better Give it to Them (By Supporting, Sharing, Licensing, and Attribution)" (2016) 114 Mich L Rev 1081 at 1095 (reviewing Jessica Silbey, *The Eureka Myth: Creators, Innovators, and Everyday Intellectual Property* [Palo Alto, CA: Stanford University Press, 2015]).

54 Association of University Technology Managers, *In the Public Interest: Nine Points to Consider in Licensing University Technology*, (6 March 2007), online: <www.autm.net/AUTMMain/media/Advocacy/Documents/Points_to_Consider.pdf>.

55 *Ibid.*

56 Christi J Guerrini, Margaret A Curnutte, Jacob S Sherkow & Christopher T Scott, "The Rise of the Ethical License" (2017) 35:1 *Nature Biotechnology* at 22-24.

57 *Ibid* at 23.

58 A somewhat different take on innovation arises from patent pledges that discourage transfers of patents to PAEs, particularly the DPL and LOT networks. See Matthew W Callahan & Jason M Schultz, "Is Patent Reform via Private Ordering Anticompetitive? An Analysis of Open Patent Agreements" in Contreras & Jacob, *supra* note 2 ("By removing the fear, uncertainty, and doubt of litigation among network members, each entity has the incentive to develop complementary and follow-on technologies to any patented product or service they have licensed. Moreover, because they know that any of their competitors will be able to enter the network and license any of their patents for free at any time, network members will have incentives to be constantly innovating ahead of their patent portfolio, so as to keep first-mover advantage on any new innovations" at 161).

thereby promoting market entry and a robust innovation base in the relevant market.

Patent pledges have been viewed as a particularly attractive means for promoting innovation in technology areas with potentially broad social impact, but uncertain commercial rewards. This is particularly true of environmentally friendly “green” technologies. The EcoPC, for example, arose from the desire of IBM and other large companies to foster the development of green technologies based on patented inventions that were not being exploited by their owners.⁵⁹ Although the EcoPC effort languished due to organizational and governance issues,⁶⁰ fostering green technology development through patent non-assertion vehicles continues to be a topic of interest.⁶¹ In this vein, Jesse Reynolds, Contreras and Joshua Sarnoff have proposed that a pledge community be established to promote research in the area of solar climate engineering, a nascent field of investigation with uncertain commercial return, but potentially large ramifications for addressing the effects of anthropogenic climate change.⁶² Patent pledges have also emerged as promoters of innovation in the biotechnology arena. For example, the BioBricks Foundation, through which participants make freely available interchangeable biological “parts,” has as an explicit goal the promotion of open development and innovation in the field of synthetic biology.⁶³

These pledge-based initiatives resonate with arguments advanced by IP theorists regarding the role that private ordering can play in correcting for over protection of IP rights. Robert Merges⁶⁴ was among the first to recognize the potential power of private arrangements to overcome IP “thickets” arising from over-supplied patent protection. Among the examples cited by Merges was IBM’s

non-enforcement pledge relating to open source software, pursuant to which IBM sought to expand the market for open source products and, more importantly, services. Barnett recognizes the commercial self-interest of firms like IBM in making such pledges, noting that such firms “do not simply seek to maximize initial innovation gains... rather, they self-interestedly seek to maximize the cumulative stream of initial plus subsequent innovation gains.”⁶⁵ Thus, while a firm’s motivation to pledge its patents may arise from economic self-interest, a by-product of its action may increase overall innovation and thereby enhance social welfare. Building on Barnett’s work, Michael Mattioli hypothesizes, in the context of patent pool formation, that “private actors will sometimes respond to the government’s excessive provision of patent rights through collective nonenforcement,”⁶⁶ specifically responding to collective pledges not to enforce patent rights.⁶⁷ And Colleen Chien, likewise, recognizes patent pledges as policy “levers” that can promote innovation through the “diffusion” of ideas into the marketplace in a manner that is less constrained than under background legal regimes.⁶⁸ All of these theories support the use of patent pledges as vehicles not only for enhancing individual firm welfare, but for increasing market-wide innovation and social welfare more broadly.⁶⁹

Patent Pledge Governance (and a Registry?)

As the industry gains a greater appreciation for patent pledges as a distinct category of firm behaviour, interest in the governance structures underlying pledges has begun to

59 Contreras, Hall & Helmers, *supra* note 48.

60 *Ibid.*

61 Bassem Awad, “Patent Pledges in Green Technology” in Contreras & Jacob, *supra* note 2, ch 4.

62 Jesse L Reynolds, Jorge L Contreras & Joshua D Sarnoff, “Solar Climate Engineering and Intellectual Property: Toward a Research Commons” (2017) 18 *Minn J L Sci & Tech* at 1–110.

63 David Grewal, “Before Peer Production: Infrastructure Gaps and the Architecture of Openness in Synthetic Biology” (2017) 20:1 *Stanford Tech L Rev* 143.

64 Robert P Merges, “Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations” (1996) 84 *Calif L Rev* 1293; Robert P Merges, “A New Dynamism in the Public Domain” (2004) 17:1 *Univ Chicago L Rev* 183.

65 Jonathan Barnett, “Property as Process: How Innovation Markets Select Innovation Regimes” (2009) 119:3 *Yale LJ* 384 at 432.

66 Michael Mattioli, “Communities of Innovation” (2012) 106:1 *Nw UL Rev* 103 at 119.

67 Although patent pools do, of course, regularly enforce pooled patents against infringers that do not acquire licences.

68 Chien, *supra* note 51 at 801.

69 Vertinsky, *supra* note 40, while acknowledging these arguments, questions whether certain patent pledges, in particular those that contain “defensive suspension” clauses, actually enhance innovation or, instead, hinder it, at least with respect to small firms and new market entrants.

emerge.⁷⁰ There is already a robust literature surrounding the governance of SDOs⁷¹ and a comprehensive academic study of this area is currently being sponsored by the European Commission's Joint Research Centre.⁷² Likewise, governance issues surrounding patent pools have been extensively documented by Richard Gilbert, Michael Mattioli and others.⁷³

Yet the governance modalities of coordinated patent pledges are under studied. Perhaps this gap in the literature exists because coordinated pledge communities are relatively new developments, as most significant non-SDO pledges (for example, those by IBM, Google, Red Hat and the like) have traditionally been made unilaterally, without coordination among firms. However, new forms of pledge communities have been emerging. Contreras⁷⁴ offers a first attempt to classify non-SDO, non-pool collective pledge efforts such as the DPL, the LOT and the EcoPC. But recent developments have brought the governance features of these activities into sharper focus.

For example, the EcoPC, after attracting significant industry and media attention, discontinued its operations in 2016. In assessing the EcoPC's failure, Contreras, Hall and Helmers⁷⁵ identified several structural features of the EcoPC's governance model that may have contributed to its demise. These included a lack of sustained recruitment and member engagement activity, and a failure to track usage of contributed patented technologies. Both of these failures can, to a degree, be attributed to the EcoPC's lack of member funding and dedicated staff, conscious

design choices that initially attracted members, but which eventually led to its unsustainability.⁷⁶

Similar structural governance features may be playing a role in the differing degrees of adoption observed between the DPL and the LOT networks. As noted above, the DPL has failed to attract a significant following, while the LOT has attained significant membership. One structural feature in the LOT's favour was the substantial simplification of its governing documentation in 2015, which appeared to make joining the effort an easier decision for companies.⁷⁷ At a more fundamental level, the LOT charges membership fees, operates under a central governance board and has dedicated staff, whereas the DPL is largely a self-executing arrangement that can be adopted by any firm that is interested at no cost, but which lacks an overarching governance structure. It is possible that the lack of a dedicated membership and recruitment mechanism as part of the DPL has disadvantaged it as compared to the LOT, just as this absence seems to have worked against the success of the EcoPC.

In addition to internal (endogenous) governance features, external (exogenous) forces also affect the governance and operation of patent pledge communities. These external forces include everything from the legal rights conferred by patent law itself to antitrust and competition laws that limit the scope of permissible interactions among competitors. One particularly salient external mechanism that has been raised in relation to patent pledges is the potential value of a centralized public registry, or at least a repository, for pledges that have been made. As observed by Contreras, such a registry could offer safeguards against pledges that are withdrawn or changed after they are made, that simply disappear from the web, or that apply to patents that change hands.⁷⁸ Reducing these uncertainties associated with patent pledges could both strengthen their legitimacy and enhance their legal enforceability.

Yet the practical difficulties associated with implementing such a registry are not insignificant. First is the question of where such a registry would reside. Currently, the author of this paper

70 Governance, in this context, refers to the set of formal and informal rules that specify the relationships and modes of interaction among parties within a particular action arena.

71 Timothy Simcoe, "Governing the Anti-commons: Institutional Design for Standard-Setting Organizations" in Josh Lerner & Scott Stern, eds, *Innovation Policy and the Economy*, (Chicago, IL: University of Chicago Press, 2014).

72 See European Commission, *Invitation to tender – JRC/SVQ/2016/J.3/0003/OC Interplay of Standard Developing Organizations and Intellectual Property Right Systems in the ICT Industry*, (3 November 2016). The author of this paper is a member of the team selected to perform this study, which is expected to be completed in 2018.

73 See e.g. Richard J Gilbert, "Ties that Bind: Policies to Promote (Good) Patent Pools" (2010) 77:1 *Antitrust LJ* at 1–48; Mattioli, *supra* note 66 at 103–55.

74 Contreras, "Patent Pledges", *supra* note 3 at 567–69.

75 Contreras, Hall & Helmers, *supra* note 48.

76 *Ibid.*

77 Davis, *supra* note 42.

78 Contreras, "Patent Pledges", *supra* note 3 at 596–600. See also Simcoe, *supra* note 71 at 288–89; Chien, *supra* note 51 at 856–57.

maintains and periodically updates the Patent Pledge Database, an informal repository of non-SDO patent pledges at American University.⁷⁹ This resource, however, lacks any official recognition and makes no pretension either to completeness or accuracy. Thus, at first glance, a governmental or non-governmental organization-based repository would be preferable. Both Timothy Simcoe⁸⁰ and Chien⁸¹ suggest that the United States Patent and Trade Office would be a natural home for such a registry, and Contreras⁸² additionally offers for consideration the European Patent Office, World Intellectual Property Organization and International Organization for Standardization. But beyond its institutional home are additional key design considerations relating to a pledge repository or registry, including the legal significance of inclusion and omission from it, the degree to which registration would be voluntary, encouraged or mandatory⁸³ and the information to be included in it.⁸⁴ These questions are far from being answered or even fully considered by the industry. However, as patent pledges become increasingly important to the market, further consideration of such a registry system is likely.

Additional Trends

Assessment and Analysis

The growing awareness of patent pledges within industry and academia has led to an increasing interest in the application of quantitative analytical methods to assess their impact and effectiveness. One of the first efforts to apply econometric measures to pledges outside the standards context was by Hall and Helmers (2013),⁸⁵ followed by

Contreras, Hall and Helmers.⁸⁶ In both of these studies, the strength of patents contributed to the EcoPC was assessed using a range of econometric techniques, including forward citation analysis.⁸⁷ The results of this study showed that the patents contributed to the EcoPC were, on the whole, of average value compared to the contributors' overall portfolios, somewhat defusing theories that firms would contribute only "junk" patents to such efforts. It is hoped that other studies of this nature will further investigate the quantitative attributes of pledged patents.⁸⁸

Pledge Populism

In the past, patents, let alone patent pledges, attracted the attention of only a handful of specialist attorneys and engineers. But today, patents have become part of the public discourse. The Obama administration actively took on patent "trolls," and vociferous public debates over drug pricing routinely invoke patents. Patent pledges, too, are entering the public awareness. In the software community, this is due, at least in part, to the efforts of groups like the Electronic Frontier Foundation, which, in conjunction with Stanford Law School, released a 2014 online pamphlet entitled *Hacking the Patent System: A Guide to Alternative Patent Licensing for Innovators*.⁸⁹ This publication describes, in plain language, different pledge structures and communities, such as the DPL and Open Innovation Network, and explains how software developers and users can reduce patent difficulties by joining these efforts. Grassroots populist activities like these have significantly broadened the universe of potential pledgors of patents, as well as users of pledged patents.

In an even greater potential expansion of patent-pledging activity, the non-profit organization Creative Commons has begun to consider ways in which it could systematize patent pledges so as

79 See Patent Pledge Database, *supra* note 6.

80 Simcoe, *supra* note 71 at 289.

81 Chien, *supra* note 51 at 856–57.

82 Contreras, "Patent Pledges", *supra* note 3 at 606–7.

83 *Ibid.*

84 Nicole Shanahan, "Overcoming Information Asymmetry in Patent Pledge Records" in Contreras & Jacob, *supra* note 2, ch 19.

85 Bronwyn H Hall & Christian Helmers, "Innovation and diffusion of clean/green technology: Can patent commons help?" (2013) 66:1 *J Environmental Economics & Management* at 33–51.

86 Contreras, Hall & Helmers, *supra* note 48.

87 It is possible that alternate measures of patent value may also be useful to evaluate pledged patents. See e.g. Holger Ernst & Nils Omland, "The Patent Asset Index: A New Approach to Benchmark Patent Portfolios" (2011) 33:1 *World Patent Information* at 34–41; Andrew W Torrance & Jevin D West, "All Patents Great and Small: A Big Data Network Approach to Valuation" (2017) 20:3 *Va JL & Tech* at 466–504.

88 In addition to the data that is available regarding pledged patents, Shanahan, *supra* note 84, has proposed that patent pledgors make additional data available about their pledges in, perhaps, a registry or common repository, as discussed in the fourth section, above.

89 The publication was revised in 2016. See Belcher & Casey, *supra* note 36.

to make them easily executable by a large range of users.⁹⁰ Creative Commons is well-known for developing a suite of self-executing open copyright licences, under which more than a billion works have been licensed to date.⁹¹ Democratizing patent pledges in a similar manner has the potential to transform the patent licensing landscape. This being said, Creative Commons experimented with a “Creative Commons Public Patent License”⁹² in 2010–11 without much success. One of the potential issues with this earlier effort was the apparent complexity of the licensing agreement: it resembled a traditional patent licence far more than the user-friendly copyright motifs that Creative Commons developed for licensing copyrights. Perhaps, as the evolving complexity of the Tesla and other patent pledges has shown, it is the nature of patents to require more complex and legally sophisticated licensing instruments than other forms of IP. But this is not a foregone conclusion, and groups like Creative Commons are well-situated to bring patent pledges to a broader audience.

The Internationalization of Patent Pledges

Except in the area of technical standardization, patent pledges have, to date, largely been a US phenomenon. There are several possible explanations for this US centrism. First, to the extent that patent pledges represent private correctives to overly aggressive patent-granting activity, as theorized by Merges and others (see the “Patent Pledges and Innovation” section, above), then it may be that the need for pledges is greatest in a jurisdiction such as the United States, where patent protection is the strongest. Given that some of the earliest patent pledges emerged in the area of open source software, and also given that the United States was once the most permissive jurisdictions worldwide in terms of granting patents covering computer software, the need for pledges may have seemed the most urgent at the outset of the emerging open source industry. Another possibility is that patent litigation, rather than patent issuances, most strongly motivated private actors to seek alternative frameworks for interaction, and that patent litigation in the United

States is widely acknowledged to be among the most costly and time-intensive in the world.

But whatever the reason for the emergence of patent pledges in the United States, these vehicles are no longer confined to US soil. The international Organisation for Economic Cooperation and Development, in particular, has expressed tentative interest in exploring ways that patent pledges can be understood and deployed internationally. This development is promising, as patent pledges could offer benefits and efficiencies to firms across jurisdictions and legal systems.

Conclusion

Patent pledges continue to grow in popularity among firms across industries. This diversity of pledging activity, together with a rich base of motivations for making pledges, has led to an expanding universe of pledge variants that are only beginning to be catalogued. The phenomenon of patent pledges offers unique opportunities for the study of evolving inter-firm governance structures and the application of analytical and quantitative techniques to pledged assets. It is hoped that this short summary will inspire additional research and investigation into this important market phenomenon.

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90 Discussed at the Evolving Pledges Workshop.

91 Creative Commons, online: <<https://creativecommons.org>>.

92 Creative Commons, “CC Public Patent License”, online: <https://wiki.creativecommons.org/wiki/CC_Public_Patent_License>.

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