IP Literature Watch

December 2016

This newsletter contains an overview of recent publications concerning intellectual property issues. The abstracts included below are as written by the author(s) and are unedited.

IP & Antitrust

Intellectual property and standard setting

Standard setting has become increasingly important to the economy. Voluntary, open, and market driven standard setting promotes research and development investments in “best of generation” technologies that enable and accelerate follow on innovation, competition, and economic growth. Standard development organizations (SDOs) are private organizations that develop technical and other standards through a collaborative and consensus-driven process that balances the varied interests of industry participants, which include both producers and potential users of technology. SDOs provide a platform for industry scientists and engineers to come together and develop technical standards. Because standards may include technology that is the subject of intellectual property rights (IPRs) such as patents, SDOs historically have promoted widespread dissemination of standardized technologies through IPR Policies, which balance the rights of IPR holders with rights to access essential technology. Although SDO IPR Policies vary widely, many policies achieve this balance by seeking to have their members publicly declare any potential standard-essential patents (SEPs) (i.e., patents that are essential to practice a given standard) and to license them on “fair, reasonable, and nondiscriminatory” (FRAND) terms. Most SDOs clearly state that the purpose of the FRAND assurance is to both ensure access to the standardized technology and fairly compensate the contributors to the standard.

The issues and choices regarding specific IPR Policies are best left to individual SDOs and their members to decide, rather than government agencies. SDOs “vary widely in size, formality, organization and scope,” and therefore individual SDOs may need to adopt different approaches to meet the specific needs of their members. A government agency’s issuance of recommendations may unduly influence private SDOs and their members to adopt policies that might not otherwise gain consensus support within a particular SDO and that may not best meet the needs of that SDO, its members, and the public. This could occur because the SDO believes that failing to adopt the specified policy is not permitted or because failing to adopt the policy could subject the SDO and its members to other legal liabilities.
Accordingly, the U.S. Antitrust Agencies have taken the position that they do “not advocate that SSOs [standard setting organizations or SDOs] adopt any specific disclosure or licensing policy, and the Agencies do not suggest that any specific disclosure or licensing policy is required.”

However, despite these statements, the U.S. Department of Justice’s Antitrust Division (DOJ) recently issued a Business Review Letter on the proposed amendments to the Institute of Electrical and Electronics Engineers, Incorporated’s (IEEE’s) IPR Policy. In the letter, the DOJ went well beyond its mission of providing a statement of its antitrust enforcement intentions with respect to the proposed amendments, and instead endorsed certain policy choices. Some of its preferred policies include provisions that essentially prohibit patent holders from seeking or enforcing injunctive relief on FRAND-assured SEPs, and provisions that essentially require component-level licensing; the latter is contrary to the long-standing industry practice of end-user device licensing. The IEEE’s controversial amendments were highly criticized by SEP holders and others on both procedural and substantive grounds. Recent econometric analysis reveals a biased treatment of substantive comments submitted to the IEEE by members opposed to the controversial revisions. Additional empirical evidence following the amendments shows a slowed rate of development for IEEE standards and numerous major SEP holders refusing to grant letters of assurance (i.e. assurances to license under certain terms) under the new policy.

Another concerning development is the U.S. Federal Trade Commission’s (FTC’s) recent consent agreements with Bosch and Motorola Mobility/Google. The former prohibits the company from seeking or enforcing injunctive relief on FRAND-assured SEPs; the latter prohibits the companies from seeking injunctive relief on a worldwide basis except under certain circumstances. Following the FTC’s consent agreements, antitrust agencies around the world, including in Canada, China, Korea, and Japan, adopted similar approaches, namely creating competition law sanctions for seeking or enforcing injunctive relief against “willing licensees.” These developments represent a fundamental policy shift that threatens to disrupt the carefully balanced FRAND ecosystem without any evidence that the targeted conduct (namely “holdup” by patent holders) is a widespread or systemic problem that has led to higher prices, reduced output, or lower rates of innovation. Indeed, in contrast to the predictions of the theories that such injunctions will have anticompetitive effects, products that intensively use SEPs have seen robust innovation as well as falling prices and increased output when compared to industries that do not rely upon SEPs.

Patent transfer and the bundle of sticks
Andrew C. Michaels (George Washington University Law School)
Working paper

In the age of the patent troll, patents are often licensed and transferred. A transferred patent may have been subject to multiple complex license agreements. It cannot be that such a transfer wipes the patent clean of all outstanding license agreements; the licensee must keep the license. But at the same time, it cannot be that the patent transferee becomes a party to a complex and sweeping license agreement – the contract – merely by virtue of acquiring one patent.

This article attempts to separate the in personam aspects of a license agreement from its effects on the underlying in rem patent rights, using Hohfeld’s framework of jural relations and the “bundle of sticks” conception of property. A license agreement can diminish (but not add to) the bundle of in rem patent rights initially granted by the USPTO, and a new patent owner takes only the diminished bundle of rights upon transfer, given that one cannot transfer more than what one owns. The bundle theory can provide greater clarity regarding the extent to which licenses “run with the patent,” and also has implications for
how patent transfer affects other doctrines such as patent exhaustion, FRAND obligations, prior user rights, and laches.

**In defense of patent trolls: patent assertion entities as commercial litigation funders**
Jean Xiao (Vanderbilt University – Law School, Law and Economics)

This paper is the first to defend and commend the role of patent trolls in litigation. It argues that trolls either are not the sole source of patent litigation ills or are not responsible for these ills in the first place. Next, it demonstrates that trolls provide the same litigation-related benefits as commercial litigation funders, which also finance patent lawsuits. Troll commentators have ignored these benefits, for which funders are praised, in the evaluation of trolls. Finally, this paper explains that eliminating trolls will not only close off a source of these benefits but also worsen problems by shifting trolling behavior to practicing entities and increasing investment in funders. In sum, though patent litigation is plagued with problems, targeting troll plaintiffs in reform efforts is not the answer to solving them.

**IP and private ordering**
Reto Hilty (Max Planck Institute for Innovation and Competition; University of Zurich; Ludwig Maximilian University of Munich)

Just as legal practice has increasingly begun to appreciate the need to safeguard access interests of third parties and the public in intellectual property rights, a new challenge has arisen: the possibility of privately ordering the use of IP, thereby supplanting the current legislative regimes and overriding limitations that have been imposed on the scope of exclusivity. Right holders can restrain users in two ways: contractually or by use of technical protection measures (TPMs) – or by a combination of both. While the former way has long been subject to academic discussion, the latter has only recently become a concern, not only, but above all, in the digital environment, and is significantly more problematic.

Private ordering may apply on three graduated levels of exclusivity, namely factual, legal, and contractual exclusivity. Factual exclusivity is based on particular circumstances, either rooted in the fact that the subject matter is not generally available, and particularly not disclosed to competitors, or in technological means, such as encryption and access controls. Whereas contracting is the unavoidable consequence of disseminating knowledge to third parties (e.g. revealing trade secrets), the artificial creation of unavailability by “locking away” a subject matter that in principle is or was accessible for third parties seems more problematic.

Legal exclusivity has its root in specific legal protection imposed through IP legislation. On this level right holders may be motivated to resort to private ordering either because protection, although existing in the law, may not be enforceable in practice, or because they are of the opinion that the granted protection, although adequately enforceable, is insufficient. The latter case is of concern because the right holder will then upset and circumvent a balance intended by and inherent to the underlying legislation.

The third level of exclusivity is based on contracts between cooperating market participants that have an impact on third parties or the general public. Examples include non-attack clauses or cross-licensing of IP rights. This level and its many variations are the concern of antitrust law. As with the first level, licensing in the first instance may be evaluated positively, depending on the terms and conditions that apply.
Tools for intervention in contractual private ordering are available in principle: In many jurisdictions, statutory restrictions to private autonomy aiming at the protection of systemically weaker parties exist with regard to the first and second level. IP legislation itself obviously comes into play on the second level. Antitrust law can apply on the first and the second level under the guise of control over unilateral conduct, on the third level under the guise of control over bilateral conduct. The current framework, however, does not offer effective means for limiting private ordering based on TPMs. Thus, especially in this respect, new regulatory approaches are required. These can, as far as the second level is concerned, be based on consumer protection law or on IP legislation itself, through the development of existing legal approaches, and, with respect to all three levels, can be based on unfair competition law.

However, since both methods of private ordering take place in highly complex and dynamic market conditions, traditional state regulation threatens to be far too inflexible and, inter alia due to lacking information often held unsystematically by different market players, ultimately incapable of intervening appropriately. Instead, this environment may provide the breeding ground for self-regulation amongst the concerned parties. For such forms of self-regulation to evolve, however, certain conditions must be met, especially an understanding of a majority of the actors that they will all benefit more from coordinated actions than from solo efforts.

Useful insights can be drawn from the currently ongoing, highly interesting learning process in the relatively narrow field of standard-essential patents, where everyone is better off with the standard because of interoperability. Further areas in which self-regulation already plays a role or might become relevant in the future are patent pools or collective rights management (CRM) in copyright law. Beyond these fields, the legislative focus in addressing the problem of private ordering might best be directed toward efforts to frame appropriate regulatory guidelines for self-regulation by market participants. These would define certain benchmarks, but leave it to the actors to operate within that framework.

**IP & Innovation**

**Innovation network**

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*CESifo Working Paper Series No. 6173*


Technological progress builds upon itself, with the expansion of invention in one domain propelling future work in linked fields. Our analysis uses 1.8 million U.S. patents and their citation properties to map the innovation network and its strength. Past innovation network structures are calculated using citation patterns across technology classes during 1975-1994. The interaction of this pre-existing network structure with patent growth in upstream technology fields has strong predictive power on future innovation after 1995. This pattern is consistent with the idea that when there is more past upstream innovation for a particular technology class to build on, then that technology class innovates more.
The effects of academic incubators on university innovation
Christos Kolympiris (University of Bath)
Peter G. Klein (Baylor University, Department of Entrepreneurship; Norwegian School of Economics, Department of Strategy and Management; Mises Institute)

We analyze the impact of academic incubators on the quality of innovations produced by US research-intensive academic institutions. We show that establishing a university-affiliated incubator is followed by a reduction in the quality of university innovations. The conclusion holds when we control for the endogeneity of the decision to establish an incubator using the presence of incubators at peer institutions as an instrument. We also document a reduction in licensing income following the establishment of an incubator. The results suggest that university incubators compete for resources with technology transfer offices and other campus programs and activities, such that the useful outputs they generate can be partially offset by reductions in innovation elsewhere.

IP & Litigation

Inventor sued for infringing his own patent. You won’t believe what happened next
Mark A. Lemley (Stanford Law School)
Working paper

The Supreme Court and the Federal Circuit have repeatedly emphasized the public interest in testing the validity of patents, weeding out patents that should not have been issued. But there is one important group of people the law systematically prevents from challenging bad patents. Curiously, it is the very group patent law is supposed to support: inventors themselves. The century-old doctrine of assignor estoppel precludes inventors who file patent applications from later challenging the validity or enforceability of the patents they receive. The stated rationale for assignor estoppel is that it would be unfair to allow the inventor to benefit from obtaining a patent and later change her tune and attack the patent when it benefits her to do so. The Supreme Court has traditionally disfavored the doctrine, reading it narrowly. But the Federal Circuit has expanded the doctrine in a variety of dimensions, and applied it even when the benefit to the inventor is illusory. Further, the doctrine misunderstands the role of inventor-employees in the modern world.

More important, the expansive modern form of assignor estoppel interferes substantially with employee mobility. Inventors as a class are put under burdens that we apply to no other employee. If they start a company, or even go to work for an existing company in the same field, they will not be able to defend a patent suit from their old employer. The result is a sort of partial noncompete clause, one imposed without even the fiction of agreement and one that binds anyone the inventor comes in contact with after leaving the job. Abundant evidence suggests that noncompetes in general retard innovation and economic growth, and several states prohibit them outright, while all others limit them. But assignor estoppel is a federal law doctrine that overrides those state choices.

It is time to rethink the doctrine of assignor estoppel. I describe the doctrine, its rationale, and how it has expanded dramatically in the past 25 years. I argue that the doctrine is out of touch with the realities of both modern inventing and modern patent law, and that it interferes with both the invalidation of bad patents and the goal of employee mobility. Should the Supreme Court take up the doctrine, it is unlikely to survive in its current form. Rather, it should – and will – return to its much more limited roots.
Are litigated patents more valuable? The case of light emitting diodes
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Working paper

Recently the LED sector has been growing very rapidly, with an expanding knowledge base and an increasing array of markets in which LEDs are used. Consequently, the number of LED-related patents has increased exponentially, as well as the amount of patent litigations. One of the factors that can hamper innovation in such high growth fields is when incumbent firms use their patent pools to deter innovation by competitors, especially by smaller firms. If so, patents would undermine innovation instead of supporting it, and thus undermining the LEDs huge potential of energy savings. To shed light on the extent to which LED patents might be used to deter innovation in the sector, we examine the nature of litigated patents, compared with non-litigated patents, and explore the main drivers of patent lawsuits. The results indicate that litigated LED patents are significantly higher quality scientifically than non-litigated ones. This has two implications. First, LED incumbent firms do not seem to be using strategic maneuvering, and that patent litigations in the LED sector are the result of innovation-related factors, rather than being guided by mere profiteering. Second, this conclusion does not imply that patent protection fosters innovation in the LED sector, because a concentration of patents in the hands of incumbent firms reduces technological variety, which mainly comes from small and innovative firms.

IP Law & Policy

The IEEE-SA patent policy update under the lens of EU competition law
Nicolo Zingales (Tilburg Law and Economics Center (TILEC); Tilburg University – Tilburg Institute for Law, Technology, and Society (TILT))
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TILEC Discussion Paper No. 2016-031

In 2015, the Institute of Electrical and Electronics Engineers (IEEE) Standardization Association made some controversial changes to its patent policy. The changes include a recommended method of calculation of FRAND royalty rates, and a request to members holding a standard essential patent (SEP) to forego their right to seek an injunction except under limited circumstances. The updated policy was adopted by the IEEE Board of Directors after obtaining a favorable Business Review Letter by the US Department of Justice, which found any potential competitive harm from the policy to be outweighed by potential pro-competitive benefits.

In this paper, we examine whether the same favorable conclusion would be reached under EU competition analysis. After discussing the role of patent policies of Standard-Setting Organizations (SSO) and the rules and principles applicable to the IEEE’s activities, the paper concludes that standardization agreements based on the updated policy may constitute a violation of article 101 TFEU.
Dynamic patent disclosure
Jeanne C. Fromer (New York University School of Law)

Those who tout the role of disclosure as a benefit of the patent system emphasize — as the Supreme Court has — that the information in patents “add[s] to the general store of knowledge [and is] of such importance to the public weal that the Federal Government is willing to pay the high price of . . . exclusive use for its disclosure, which disclosure . . . will stimulate ideas and the eventual development of further significant advances in the art.”

As I excavate in this Article, the current state of patent disclosure — which many think is poor and does not achieve its objective of stimulating innovation — is impoverished in part because it occurs so early in the process of innovation, at the time a patent is filed. The law mandates no further disclosures after this point. So much of the innovation process, from refinement to prototyping to market research to mass production, has yet to occur at the moment of patent filing. Yet the law does not require disclosure of so much of this valuable information related to a patented invention. That is, patent disclosure is early and static. In this Article, I propose requiring more dynamic patent disclosure of important information generated post-patent filing. In particular, I advocate that patentees should be required to divulge all commercialized products they or their licensees make, linking the products to the patents they reasonably think cover those products. This form of dynamic patent disclosure would better effectuate patent law’s goal of promoting innovation by revealing helpful technological information, communicating clearer notice of patent scope, and generating useful empirical information to study the effectiveness of the patent system in promoting innovation and commercialization.

Note: This Article is published as part of a Vanderbilt Law Review Symposium on “The Disclosure Function of the Patent System.”

Screening for patent quality: examination, fees, and the courts
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CentER Discussion Paper Series No. 2016-046

We develop an integrated framework to study how governments can improve the quality of patent screening. We focus on four key policy instruments: patent office examination, pre- and post-grant fees, and challenges in the courts. We show that there are important complementarities among these instruments, and identify conditions under which they can be used to achieve either partial or complete screening. We simulate the model to study the welfare effects of different policy reforms. We show that intensifying patent office examination, frontloading patent fees and capping litigation costs all generate welfare gains, while replacing examination with a pure registration system reduces welfare.
The recently proposed new Copyright Directive was released on 14 September 2016. It has been described by EU law-makers as the pillar of the copyright package promised by the European Commission (EC), to be delivered before the end of Mr. Juncker’s mandate. In its Communication of 6 May 2015, the EC had stressed “the importance to enhance cross-border access to copyright-protected content services, facilitate new uses in the fields of research and education, and clarify the role of online services in the distribution of works and other subject-matter.” The proposed Copyright Directive is thus a key measure aiming to address two of these three issues.

We concentrate on the third one, carefully examining the text of both the explanatory memorandum and the Directive itself, in an attempt to highlight its shortfalls. We hope that this exercise will prove useful for the debate that has now begun both in the European Parliament and in the Council. We begin with a brief assessment of the explanatory memorandum and then focus on the articles and recitals of the proposed Copyright Directive.

Our conclusions are:

1. A comprehensive re-assessment of Article 13 and Recital 39 in the light of the Charter of Fundamental Rights of the European Union and the E-commerce Directive (in particular Article 15) including Court of Justice of the European Union case law is needed, as the proposed Copyright Directive does not expressly address the issue of its compatibility with both of these texts.

2. Recital 38 does not clarify the domain and effect of Article 13. Rather, it creates confusion as it goes against settled CJEU case law (relating to Articles 14 and 15 of the E-commerce Directive and Article 3 of the Infosoc Directive). Recital 38 should therefore be deleted or substantially re-drafted/re-phrased. If the EU wants to introduce a change in this regard it should clearly justify its choice. In any case, a recital in the preamble to a directive is not an appropriate tool to achieve this effect.
Implementing the FRAND standard in China
Jyh-An Lee (The Chinese University of Hong Kong (CUHK) – Faculty of Law)

The modern world relies on technical standards, most of which involve standard-essential patents (SEPs). To balance SEP holders’ fair compensation with standard implementers’ access to standardized technologies, standard-setting organizations (SSOs) generally require that their members commit to license their SEPs on a fair, reasonable, and non-discriminatory (FRAND) basis. In recent years, the communications industry has seen a growing amount of litigation concerning SEPs and FRAND in many jurisdictions. As China has grown into a major player and market in the worldwide communications business, its public policy, court decisions, and private business strategies concerning SEPs and FRAND are likely to have a huge global impact in the high-technology sector. The high-profile Huawei v. IDC is the first Chinese court decision ruling on FRAND-encumbered SEPs issues. This is also the first Asian case in which the court determined a FRAND royalty rate to calculate the fee paid by the standard implementer to the SEP holder. Based on the Chinese government’s policy toward technical standards and the case of Huawei, this Article identifies two distinguishing features in China’s encounter with standard-related issues. The first is the active role played by the government in domestic standard-setting activities, while the second is Chinese courts’ civil law approach, associated with good faith, to the enforcement of FRAND commitments. Based on a comparative and critical viewpoint, this Article uses Huawei as an example to illustrate the challenges and perplexities for the judicial determination of a FRAND rate. The reasoning in Huawei is far from sufficient and satisfactory, and it is unclear whether the Chinese courts are tasked to implement the government’s industrial policy. Nonetheless, Huawei did identify some crucial factors concerning FRAND and SEPs, and it has had a significant impact on Chinese related standard-setting activities.

Intellectual property rights protection, ownership, and innovation: evidence from China
Lily H. Fang (INSEAD – Finance)
Josh Lerner (Harvard Business School – Finance Unit; Harvard University – Entrepreneurial Management Unit; National Bureau of Economic Research (NBER))
Chaopeng Wu (Xiamen University – School of Management)

Using a difference-in-difference approach, we study how intellectual property right (IPR) protection affects innovation in China in the years around the privatizations of state-owned enterprises (SOEs). Innovation increases after SOE privatizations, and this increase is larger in cities with strong IPR protection. Our results support theoretical arguments that IPR protection strengthens firms’ incentives to innovate and that private sector firms are more sensitive to IPR protection than SOEs.
Other IP Topics

**International collaboration on IP/Access to medicines: birth of South Africa’s fix the patent laws campaign**
Brook K. Baker (Northeastern University – School of Law)

In 2000, my colleague Yousuf Vawda and I became active in the global campaign to address intellectual property rights (IPRs), human rights, and barriers to access to affordable medicines for treating HIV and AIDS in South Africa. This paper details their academic collaboration, their activist-oriented “clinical” offering, and the vibrant campaign that it helped to spawn. It also situates the Fix the Patent Laws Campaign (the “Campaign”) within the global framework of pro-Pharma legal rules and diplomatic pressures, showing the connections between the global political economy and local reform efforts grounded in the right to health enshrined in the South African Constitution. In Part II, I discuss the beginning of my involvement in IP and access-to-medicines work. Part III describes law reform efforts that address upstream barriers to the right to health and the collaboration between academics, practitioners, funders, and social movements that help energize needed reforms. Part IV explains the creation of IP systems that block access to generic medicines. Part V outlines the IP flexibilities permitted by the World Trade Organization (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Part VI discusses the deficiencies of the South African Patents Act of 1978. Part VII focuses on my involvement in developing a two-week IP course at the University of KwaZulu-Natal (UKZN). Part VIII details the creation of the Fix the Patent Laws Campaign. Part IX concludes the paper.

**High on creativity: the impact of social liberalization policies on innovation**
Keyvan Vakili (London Business School)
Laurina Zhang (Western University – Ivey Business School)
*Working paper*

This study investigates the impact of the social context on the rate and direction of innovation. We propose that social liberal environments increase the rate of innovation of incumbent inventors by lowering the cost of social interactions. We examine the impact of two social liberalization policies (legalization of same-sex civil unions and medical marijuana) and one anti-liberalization policy (passage of abortion restrictions) on patenting. We find that inventors residing in regions that implement social liberal policies are more likely to form new collaborations and increase patenting. Patents filed after social liberal policies are more likely to become breakthrough innovations and be built upon novel technological recombinations. Social liberalization policies increase the rate of entrance into inventorship but do not attract top inventors from other regions.

**About the editor**

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