



IP Literature Watch

CRA Charles River
Associates

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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

Royalty stacking and standard essential patents: theory and evidence from the world mobile wireless industry

Alexander Galetovic (Universidad de los Andes)

Kirti Gupta (Qualcomm, Inc.)

Working paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2790347

The royalty stacking hypothesis is based on the Cournot-complement model. It states that the royalties individually set by each standard essential patent holder (SEP holder) may add up to prohibitively high levels. We develop an equilibrium model with general log-concave constant-pass-through demand, downstream oligopoly and endogenous entry into manufacturing. Each SEP holder independently sets a linear royalty to maximize her individual profit.

The model shows that roughly 10 SEP holders suffice to significantly reduce equilibrium output; with 100 SEP holders output nearly collapses. As the number of SEP holders increases (i) the equilibrium price rises; (ii) quantity falls (iii) individual SEP holders royalties and margins fall; and (iv) downstream manufacturing concentrates.

We look for evidence of royalty stacking in the world mobile wireless industry. The number of SEP holders for the widely deployed 2G, 3G, and 4G wireless cellular standards protractedly grew from 2 in 1994 to 130 in 2013. We find no evidence of royalty stacking. Between 1994 and 2013: (i) the number of devices sold each year rose 62 times or 20:1% per year on average; (ii) controlling for technological generation, the real average selling price of a device fell between 11:4% and 24:8% per year (iii) the introductory average selling price of successive generations fell over time; (iv) neither the average gross margin of SEP holders nor of non-SEP holders shows any trend; (v) the number of device manufacturers grew from one to 43; (vi) since 2001, concentration fell and the number of equivalent manufacturers rose from six to nine.

Repeated interaction in standard setting

Pierre Larouche (Tilburg Law and Economics Center (TILEC); College of Europe – Bruges; Tilburg University - Tilburg Law School; Center on Regulation in Europe (CERRE))

Florian Schuett (Tilburg Law and Economics Center (TILEC); Tilburg University – Center and Faculty of Economics and Business Administration)

TILEC Discussion Paper No. 2016-010

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2792620

As part of the standard-setting process, certain patents become essential. This may allow the owners of these standard-essential patents to hold up implementers of the standard, who can no longer turn to substitute technologies. However, many real-world standards evolve over time, with several generations of standards succeeding each other. Thus, standard setting is a repeated game in which participants can condition future behavior on whether or not hold-up has occurred in the past. In the presence of complementarity between the different patents included in the standard, technology contributors have an incentive to discipline each other and keep royalties low, which can be achieved by threatening to exclude contributors who have engaged in hold-up from future rounds of the process. We show that repeated standard setting can sustain FRAND royalties provided the probability that another round of standard setting will occur is sufficiently high. We also examine how the decision-making rules of standard-setting organizations affect the sustainability of FRAND royalties.

IP & Innovation

The ‘overly-broad’ Selden patent, Henry Ford and development in the early US automobile industry

John Howells (Aarhus University)

Ron D. Katznelson (Bi-Level Technologies)

Working paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2801309

A current policy concern is that the alleged uncertainty over the enforceability of “overly-broad” patents of “dubious validity” may retard innovation. We take the Selden patent on the automobile as a classic of this type of patent. We review the evidence of commercial development during its term and show that there is no evidence that innovation was retarded. To better understand this result we follow Henry Ford’s investigation of the Selden patent’s scope during 1903, the year when the Ford Motor Co. was most vulnerable to “uncertainty” over the enforceability of the asserted broad construction of the Selden patent claims. We use new primary sources to show how Henry Ford and others engaged in what today is called “Freedom to Operate” patent analysis when it most mattered commercially. We show that Ford correctly anticipated that a future court adjudication of the Selden patent claims would not support the broad construction of those claims. Ford’s and the Ford Motor Co.’s confidence in their understanding was powerfully illustrated by their Company’s public offer to indemnify purchasers of Ford automobiles against the threatened suits for infringement under the Selden patent. This and other public actions effectively induced the Selden patent owners to bring suit against the Ford Motor Company. Finally, we show that the Ford Motor Company litigation costs in its first year of operation were trivial yet litigation brought valuable market publicity. We find that Henry Ford’s investigative actions provide an exemplary model for what innovators unremarkably do today when faced with “uncertainty” over the breadth or validity of patent claims.

IP & Litigation

Patent eligible subject matter after Alice

Jay P. Kesan (University of Illinois College of Law)

Carol Mullins Hayes (University of Illinois College of Law)

Research Handbook on Electronic Commerce Law (John A. Rothchild, ed., Edward Elgar Publishing, 2016) (Forthcoming)

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2786662

Section 101 of the Patent Act establishes the baseline for patent eligibility. There are three common law exceptions to statutory subject matter eligibility: (1) abstract ideas; (2) laws of nature and (3) natural phenomena. These exceptions were delineated with the primary goal of preventing a patent from preempting beneficial downstream research and innovation. In 2014, the Supreme Court took steps to clarify the abstract idea exception in *Alice Corp. v. CLS Bank*. The patents at issue in *Alice* concerned the use of computers as intermediaries for mitigating settlement risk. After commenting on the ubiquity of computers in modern life, the Supreme Court concluded that the use of a generic computer to execute an abstract idea was too routine and conventional to transform the abstract idea into patent eligible subject matter.

In this paper, we discuss post-*Alice* cases and the ways that they have applied the ambiguously worded two-part test from *Alice*. Our initial analysis underscores the continuing importance of the machine-or-transformation test. We also examine the “routine and conventional” analysis and the different types of processes that courts have tended to consider and find to be abstract ideas. For example, a mental task or something that can be figured out using a pen and paper is often considered an abstract idea. There are also several procedural issues that have repeatedly emerged, including the stage of litigation where a Section 101 analysis is appropriate, the importance of claim construction, and the presumption of validity for issued patents under Section 282 of the Patent Act. This chapter also examines recently amended USPTO rules and procedures and how they interact with post-*Alice* eligibility analysis.

To *Bilski*, and beyond: an empirical analysis of judicial opacity on patent law and the modern administrative state

Amanda Maslar (University of Illinois College of Law)

Prachi V. Mehta (Winston & Strawn LLP)

University of Illinois Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2793633#

Patentable subject matter is a critical issue in patent litigation, both at the administrative and judicial level. In a 2010 decision, *Bilski v. Kappos*, the Supreme Court significantly altered the standard for defining what is patentable subject matter by eliminating the physicality requirement and ruling that the Federal Circuit’s “machine or transformation test” (“MOT”) was no longer the sole litmus test for determining the patent eligibility of a process claim, but rather, was an “investigative clue.” Many academics and commentators predicted that the *Bilski* decision would have an enormous impact on patent applicants, litigants, examiners, and other participants in the patent system. To date, however, there has been no comprehensive empirical study of *Bilski*’s actual impact on patentable subject matter, either at the Patent and Trademark Office (“PTO”) or at the courts.

This Note fills this gap by not only being the first to undertake an empirical study of Bilski's actual impact, but also by being the first to empirically study the doctrine of patentable subject matter as applied by PTO examiners. We analyzed eight years of PTO decisions — four years before and after Bilski was decided. We found compelling evidence that not only are PTO examiners more likely to issue Section 101 rejections for business method patents post-Bilski as compared to pre-Bilski, but they are also more likely to continue to rely on the MOT test in making Section 101 patentable subject matter rejections for applications that fall under business methods versus other classes, such as telecommunications. Finally, our results strongly suggest that patent applicants are picking up on these entrenched behavioral norms at the PTO by being more likely to cite to machines or recite transformations when drafting business method applications, as opposed to applications for medical diagnostics. These results present profound policy implications for business method patents, for the doctrine of patentable subject matter, and also for administrative law, more generally.

Patents absent adversaries

Sarah Rajec (William & Mary Law School)

Brooklyn Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2791019

The United States relies on an adversarial system of dispute settlement. And yet, in a tribunal of steadily growing importance for intellectual property disputes — the International Trade Commission (ITC) — certain cases proceed without the benefit of participation from adverse parties. The ITC's determinations are not limited to the defaulting parties but rather are applied widely through the in rem relief of general exclusion orders (GEOs) enforced at the U.S. border to keep infringing goods out of the country. A separate form of adversarial exclusion follows infringement determinations made by U.S. Customs and Border Protection (Customs) and appeals therefrom. This article identifies the phenomenon of adjudicating patents absent adversaries and argues that it is both inefficient and ineffective to construe patent claims without the guiding context of a controversy. Absent adversaries, the public interests that are served by robust adversarial participation in patent disputes go unrepresented.

The solution that is most consonant with our adversarial system and the most practical to implement would delay time-intensive adjudication until interested adversaries are present. Under this proposal, protests of exclusions under GEOs that require complex claim construction and infringement determinations may be referred back to the ITC for inter partes proceedings. This change would allow importers affected by GEOs to protest them before ALJs who are familiar with the case and technology and would also allow patent holders to participate in proceedings in which they have a direct interest.

Counterproductive notice in literalistic versus peripheral claiming

John F. Duffy (University of Virginia School of Law)

Boston University Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2788852

Providing clear notice of property rights is a worthwhile goal, but legal requirements for notice can also thwart that goal. If the law imposes unrealistic notice requirements and invalidates the whole right as a penalty for non-compliance, the enforcement mechanism can weaken notice by transforming imprecision at the edges of the property right (where uncertainty is greatest) into uncertainty throughout the entirety of the right. The paradox associated with such notice requirements is evident in modern patent claiming

doctrine. Under current Federal Circuit law, patent claims are treated as precise verbal descriptions demarcating the outer edges of patent rights, and with minor exceptions, the patentee is assumed to have rights to everything that falls within the literal bounds of the claim. That “literalistic claiming” method deviates sharply from the “peripheral claiming” method that was dominant throughout most of the twentieth century. This essay gives reasons for believing (1) that the Federal Circuit’s current approach to claiming is inconsistent with both Supreme Court and prior circuit case law in several significant respects; (2) that the Federal Circuit’s current approach is irreconcilable with principles of rights definition in other areas of property law; and (3) that a seemingly less precise approach to patent claiming might produce better notice and otherwise be more consistent with good patent policy. The essay concludes with practical suggestions concerning how the Federal Circuit’s approach to patent claiming can be changed.

IP Law & Policy

Enforceability TBD: from status to contract in intellectual property law

Orly Lobel (University of San Diego School of Law; Harvard Law School)

Boston University Law Review, Vol. 96, 2016

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2788857

Much of the recent history of intellectual property has been a move from status to contract, resulting in an unchecked expansion of controls over knowledge beyond the boundaries once drawn in IP law. When employers introduce these contractual arrangements as standard HR provisions, they are imposed without negotiation and largely without notice. Oftentimes new employees are asked to sign these contracts as a “take it or leave it” condition to their continued employment. These provisions may appear in unilateral, generic individual employment contracts or as part of corporate handbooks and manuals. The problem is compounded with the breadth of the contractual clauses, which employ language and terms far more expansive than the recognized boundaries of intellectual property, resulting in uncertainty about their enforceability. The courts employ multifactor tests to determine, *ex post*, the “reasonableness” of such clauses as non-compete, non-disclosure, innovation assignment, and holdover clauses. These complicated provisions exact a high cost to innovation and job mobility, resulting in the chilling of talent flow and entrepreneurship. They also induce the vertical integration of firms to the detriment of knowledge exchanges and competition.

Safeguards for defendant rights and interests in international intellectual property enforcement treaties

Kimberlee G. Weatherall (University of Sydney – Faculty of Law)

American University International Law Review, Forthcoming, 2016

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2791237

This paper explores how international intellectual property (IP) law protects the rights and interests of defendants in IP enforcement procedures. It offers a mapping and analysis of a range of procedural safeguards and limits to remedies found in the international legal framework governing IP enforcement. These include general principles, like the requirement that enforcement measures be fair and equitable and that procedures provide for safeguards against abuse. There are also detailed rules regarding the availability of remedies and the considerations relevant to the making of court orders, and specific in-built protections and rules that directly protect the interests of defendants in legal proceedings. This paper maps the development of safeguards over time, with a focus on international instruments involving the

US. The picture is simultaneously heartening and disturbing: while TRIPS provides a detailed framework in enforcement with significant procedural protections, many of them mandatory, these safeguards are disappearing from the US' international agreements, and we may risk losing sight of the hard-won balance established in the 1990s. Annexure 1 to the paper provides a table identifying the various safeguards and whether they are in, or out, of the international instruments discussed in this paper. The paper is a contribution to a symposium on international and comparative user rights in copyright, but the analysis is of relevance more generally to the development of IP enforcement provisions in international agreements.

The antitrust and intellectual property intersection in European Union law

Nicolas Petit (University of Liege – School of Law)

Handbook of Antitrust, Intellectual Property and High Tech, Roger D. Blair & D. Daniel Sokol editors, Cambridge University, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2796670

In European legal scholarship, many articles discuss the equilibrium reached in the case-law of the Court of Justice of the European Union (“CJEU”) when the EU antitrust prohibitions apply to, and restrain, the free and ordinary use of intellectual property rights (“IPRs”). We call this the antitrust-IP intersection. The most interesting feature of this literature is perhaps the common assumption that a unifying substantive perspective, vision or theory on IPR underpins the intersection point reached by the antitrust case-law. Whilst the theory of “absolutism” can be quickly disposed of, several other theories like inherency, exceptionalism or complementarity have been described as the lynchpin of the antitrust-IP intersection. Our paper offers a different reading of the case-law. It submits that the antitrust-IP intersection does not rest on any unitary theory which, in turn, bespeaks the Court’s vision of the social function of IPRs. Instead, the main feature of the CJEU case-law is that a specific methodology is applied to antitrust cases with IPR ramifications. The CJEU deals with most of such cases under a rule-based approach, instead of a standard-based approach. By rule-based approach, we refer to the ex ante setting of structured tests of liability, by opposition to ex post case-by-case resolution on grounds of a pre-determined, general standard (e.g., reasonableness, competition on the merits, efficiency, fairness, equity, etc.). As will be seen below, this approach has many virtues, not least in terms of legal certainty. But it also has a major qualification. Whilst the Court has consistently formulated rules of liability and justifiability at the antitrust and IP intersection, it has at the same time often embedded abstract standards within those rules. The implications of this mixed approach are unclear.

Copyright Law

Copyright’s other functions

Margaret Chon (Seattle University School of Law)

Chicago-Kent Journal of Intellectual Property, Vol. 15 (2016)

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2789876

This response to a keynote speech by Judge Margaret McKeown explores some dimensions of copyright in addition to its dominant function as a set of market-facilitating exclusive rights. The recent possible trend towards protecting privacy and other non-commercial concerns via copyright law is not necessarily inconsistent with its historical usages, does not necessarily threaten freedom of expression and may further important privacy policies. The balance of these competing policies is shifting, especially in an

environment of proliferating digital content where cyber civil rights may need further development in response to cyberbullying. It examines the specific case of non-consensual pornography as a means of exploring possible doctrinal and policy directions. Ultimately it endorses a less formalistic and more flexible use of copyright to address harms currently under-recognized by our existing legal frameworks.

The economics of book digitization and the Google books litigation

Hannibal Travis (Florida International University College of Law)

Working paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2791181

This piece explores the digitization and uploading to the Internet of full-text books, book previews in the form of chapters or snippets, and databases that index the contents of book collections. Along the way, it will describe the economics of copyright, the “digital dilemma,” and controversies surrounding fair use arguments in the digital environment. It illustrates the deadweight losses from restricting digital libraries, book previews, copyright litigation settlements, and dual-use technologies that enable infringement but also fair use. By taking into account the lack of evidence that some forms of copying inflict serious harm, the emerging law of digitization and search engines for books would return contemporary copyright doctrine to a time when it only prohibits acts more likely to result in economic harm, such as competitive piracy.

Claims to expand copyright exceptions driven by ‘bad science’

George Robert Barker (Australian National University, ANU College of Law, Centre for Law and Economics; Law and Economics Consulting Associates Ltd; UCL Centre for Law, Economics and Society)

Working paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2795498

This report reviews a number of papers being used to try and justify major copyright policy changes in Asia Pacific. Specifically, this reports reviews five papers cited by Google in Australia in support of its submission (the Submission) to the Productivity Commission’s (PC) inquiry into Australia’s intellectual property arrangements. In the Submission, Google expressed the view that Australia’s copyright system is not as effective, efficient or adaptive as it needs to be, and that it is impeding Australia’s capacity to innovate.

Our review of the empirical data Google cites, however, finds that in general, contrary to the claims that they are being used to support, these studies conclusions are bad science and offer no substantial empirical evidence of a causal link between broader copyright exceptions and productivity and economic growth. The studies cited in the Submission have been discredited, containing fundamental errors in empirical research, making them unfit for policy-making. Moreover, the evidence in the studies appears to contradict the claims made in the Submission. In particular:

- The 2012 Singapore fair use study cited by Google suggests that US-style fair use exceptions in Singapore were associated with a fall in the rate of growth of copyright industries. Singaporean copyright industry revenue growth slowed from 14.16 per cent to around 6.68 per cent per annum after the introduction of fair use.

-The 2012 Australian Lateral Economics Study cited by Google shows that fair use exceptions in the US are associated with a lower rate of growth of value-add in what it calls copyright exceptions industries in the US, compared the same industries in Australia.

Thus, as a result of the empirical analysis contained herein, this report concludes that the argument advanced by the Submission that broader copyright exceptions will promote productivity and economic growth is not based on sound research.

Against creativity

Brian L. Frye (University of Kentucky – College of Law)

Working paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2785953

According to the Supreme Court, copyright requires both independent creation and creativity. The independent creation requirement effectively provides that copyright cannot protect copies or abstract ideas. But the creativity requirement should be abandoned because it is both incoherent and inconsistent with the aesthetic nondiscrimination principle. The purpose of copyright is to promote the production of economically valuable works of authorship, not creativity.

IP & Asia

Culture of research and innovation: imperative for India to become global leader

Deepak Kumar Adhana (Independent)

GE - International Journal of Management Research, Vol. 4, Issue 1, January 2016

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2796201

Developing countries that aspire to become emerging economies and eventually advanced countries have to use all the options available to them to improve their technological performance. It is in their interest to adopt relevant techniques from existing best practice being used abroad for some areas of high-technology activity. At the same time, countries will expend effort and resources in developing their domestic innovation systems. Developing countries increasingly design policies intended to increase their innovation capacity. Innovation policies have taken different forms, depending on countries' perceived needs; their impact has also varied across countries at similar levels of development. Certain developing countries have managed to continually improve their innovation inputs and outputs. Others still struggle. Innovation is gaining prominence in all kinds of economic activity around the world. Not only advanced economies but also developing nations are finding that innovation is one of the main drivers of economic growth. This renewed understanding of the significance of innovation is having a growing impact on the course of policy formulation in many countries. A closer look suggests that developing nations are no longer lagging behind high-income ones in their efforts to introduce policies that will increase their innovation capacity. On the contrary, in many cases developing nations are taking the lead in embracing innovation to boost their industrial and economic growth.

The paper also shows India's ranking in innovation on various parameters. At the end paper examines the reasons of India's lagging behind in innovation and also suggests some recommendations to drive innovation in India.

Other IP Topics

The law of 180-day exclusivity

Erika Fisher Lietzan (University of Missouri School of Law)

Julia Post (Covington & Burling LLP)

Food & Drug Law Journal, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2786337

In 1984, Congress created a statutory pathway for approval of generic drug applications and included an incentive for generic applicants to challenge the patents claiming the reference drugs on which they based their applications. The first generic applicant to file an ANDA with a patent challenge is eligible for 180 days of generic market exclusivity. This article is the fourth in a series of articles describing the resulting body of law, as interpreted and applied by FDA (in regulations, guidances, citizen petition responses, and individual decisions awarding and denying exclusivity) and the courts. The heart of the article is section II, which discusses a series of twenty-eight discrete interpretive issues, arranged in five categories: which rules apply, earning exclusivity, forfeiture of exclusivity, commencing the exclusivity term, and enjoyment (use) of the exclusivity term. It devotes considerable attention to developments since 2009 (our last article): new issues that have arisen relating to 180-day exclusivity generally, such as premature notice of paragraph IV certification, as well as the body of law emerging around the forfeiture provisions enacted in 2003. Section III briefly discusses three policy issues arising out of the 180-day exclusivity scheme: the impact of the scheme on subsequent generic applicants, the relationship between the scheme and patent settlements, and authorized generics — noting key judicial, legislative, and academic commentary on each. The Article concludes with a discussion of recent and pending legislative proposals that indirectly or directly address 180-day exclusivity and notes the exclusivity for interchangeable biologics that was modeled, in part, on the generic drug precedent.

About the editor

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