



# 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

### **Standard-essential patents and market power**

Anne Layne-Farrar (Charles River Associates; Northwestern University)

Koren W. Wong-Ervin (George Mason University, Scalia Law School – Global Antitrust Institute)

*World Competition Day, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2872172](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2872172)

While most agencies that have addressed the issue recognize that intellectual property rights (IPRs), including standard-essential patents (SEPs), do not necessarily confer market power, there remains much confusion over how to determine the proper relevant market and the issue of whether a particular SEP owner has market power. For example, some agency officials have contended that, while not always the case, SEPs will “generally” or “typically” confer market power absent the existence of substitutes such as competing standards. As an initial matter, empirical research suggests that standardization does not automatically confer market power, but rather frequently “crowns winners,” i.e., more important technologies are natural candidates for inclusion in standards. This is particularly important in jurisdictions such as the United States, in which antitrust laws do not punish extraction of monopoly profits, but reach only exclusionary or predatory conduct. Also flowing from this finding is that the issue of whether a particular SEP holder has market power requires a case-by-case fact-specific inquiry into whether a single SEP (or portfolio of SEPs) constitutes a well-defined relevant market, whether there are potential substitutes, and the degree to which any market power is mitigated by complementarities among technologies used for the same product.

### **Patent trolls as financial intermediaries? Experimental evidence**

Stephen Haber (Stanford University – Hoover Institution and Political Science)

Seth H. Werfel (Stanford University, Department of Political Science, Students)

*Economics Letters, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2552734](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2552734)

Recent work suggests that Patent Assertion Entities (PAEs) — or “patent trolls” — are a new form of financial intermediary. According to this view, individual patent holders are unable to contract with large manufacturers because they lack the financial resources necessary to litigate against infringement. Since

individual patent holders are heterogeneous in their constraints and preferences, the market function of PAEs should depend on their specific demands. We conducted an experiment in which subjects from a population of interest were each assigned patents that were infringed by large manufacturers in a hypothetical scenario. We relaxed the financial constraints of some patent holders and evaluated whether this randomized intervention subsequently reduced the demand for PAEs relative to costly litigation. Our results indicate that PAEs served an intermediary function for two groups in our sample: subjects who identified as inventors rather than entrepreneurs, and subjects who were relatively more sensitive to financial losses.

### **Challenge restraints and the scope of the patent**

Erik Hovenkamp (Northwestern University, Department of Economics)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2866630](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2866630)

Patent rights are not the only important legal entitlements conferred by the Patent Act. It also vests “challenge rights” in third parties, permitting them to challenge granted patents as invalid or unenforced, and potentially clearing a path for privileged competition. These classes of rights perform opposite policy functions, with patent rights providing an inducement for invention and challenge rights providing a check against unwarranted or overbroad patent enforcement. And, unlike patent rights, the Patent Act never suggests that challenge rights are alienable – i.e. that they may be transacted or suppressed through contract. It follows that “challenge restraints” – contractual provisions that bar or penalize the exercise of a party’s challenge rights – are not within “the scope of the patent.” This suggests not that they are categorically unlawful, but simply that they do not enjoy safe harbor from antitrust attack.

Challenge restraints are used within a variety of different patent agreements – ranging from ordinary licensing deals to “reverse settlements” – with varying competitive effects. However, the courts have failed to recognize challenge restraints as a distinct antitrust issue. This brief article explains why they ought to be viewed as such. The analysis also helps to clarify the proper ambit of antitrust intervention in patent agreements.

### **The role of design choice in intellectual property and antitrust law**

Stacey L. Dogan (Boston University – School of Law)

*15 Colo. Tech. L.J. (Forthcoming)*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2862594](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2862594)

When is it appropriate for courts to second-guess decisions of private actors in shaping their business models, designing their networks, and configuring the (otherwise non-infringing) products that they offer to their customers? This theme appears periodically but persistently in intellectual property and antitrust, especially in disputes involving networks and technology. In both contexts, courts routinely invoke what I call a “non-interference principle” — the presumption that market forces ordinarily bring the best outcomes for consumers, and that courts and regulators should not meddle in the process. This non-interference principle means, for example, that intermediaries need not design their networks to optimize enforcement of intellectual property rights, and monopolists need not consider the effects on competitors when they devise and sell new products.

Yet in both contexts, on rare occasions, courts deem the non-interference principle inapplicable and find liability, at least in part, based on a party’s choice of product design. Although intellectual property and antitrust scholars have each addressed judicial treatment of product design within their discipline, commentators have given little attention to similarities and differences between how the non-interference principle plays out in each context. Such an investigation yields interesting insights about the values

underlying non-interference, and has implications for judges applying the principle in both intellectual property and antitrust law. This essay explores the non-interference principle in intellectual property and antitrust law, with an eye toward the factors that determine its applicability across the two doctrinal contexts.

## IP & Innovation

### **The market for software innovation through the lens of patent licenses and sales**

Colleen V. Chien (Santa Clara University – School of Law)

*Berkeley Technology Law Journal - Forthcoming*

<http://hooverip2.org/working-paper/wp16010/>

Software innovation is transforming the US economy. Yet, the paid market for software innovation is poorly understood, in part because of a lack of public information about the licensing and transfer of innovation between firms. This paper skirts these obstacles by drawing upon several proprietary datasets, exploring the market for software innovation through the lens of patent licenses and sales. I find that despite the intense academic and policy focus on software patent litigation, software patents are much more likely to be transferred than litigated (1.4-2.4% odds of being sold per year vs. 1-2% odds of being litigated per lifetime), and argue that more attention should be paid to the market for innovation. Further, although the Supreme Court and new procedures have made it harder to enforce software patents, the market for software innovation remains remarkably robust, I find, with the number of software patents sold growing over 50% from 2012 to 2015. I attribute this development to the robustness of the demand for patents providing freedom to operate, the strength of software business models, and bargain shopping as the price of individual patents has gone down. This analysis distinguishes between transfers to support the transfer of technology as opposed to mere transfers of liability (generally through naked patent licenses). I find that the majority of significant software patent agreements registered with the SEC (N=245) support true technology transfer, contrary to other studies. However, trade secret and code were more important than patent for transferring software innovation between firms. In addition, large numbers of patents, it appears, are being sold to avoid litigation or provide freedom to operate, not to access technology for development. The traditional narrative of patents enabling young companies to get access to the commercialization capabilities of larger more established firms doesn't pervade in the data – patents are two to three times more likely to go from an older company to a younger company, and from a higher revenue to lower revenue public company, based on available data. When transactions are not accompanied by the transfer of technology, this finding lends some support to the perception of software patents as a tax on innovation that young companies must pay to older firms.

### **Do valid patents promote progress?**

Jonathan H. Ashtor (Skadden, Arps, Meagher & Flom; George Mason University School of Law)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2857697](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2857697)

The strength of patents is often seen as their greatest weakness. Patents are said to represent a “tradeoff” between the benefits of public disclosure of new technical information and the burdens of private exclusivity over use of that information. The stronger the patent the greater the private benefit, potentially at the expense of society. And, when patents are too strong, they are seen as potentially “blocking” future technological progress, undermining society’s benefit of the bargain. The patent “tradeoff” and its attendant concerns currently take center stage in the debates over access to scientific research tools, patent thickets, and resource draining patent litigation.

This paper studies the patent “tradeoff” empirically and demonstrates that the private and social benefits of patents can work together, not in opposition. We exploit the statutory criteria of patent validity to analyze the impact that valid patents have on future technological progress. We find a significant positive relationship. By analyzing over 1500 U.S. patents held valid or invalid in courts, we show that valid patents give rise to more future inventions than invalid patents. This occurs during the full term of patent exclusivity, and it holds true for future developments made by third parties other than the patent owner. Crucially, we find that this effect hinges on the quantity and quality of the patent disclosure. Patents that are invalidated for lack of novelty have the weakest impact on future development, whereas patents which disclose more information tend to promote more future inventions and are more likely to be valid. Overall, we find a robust positive connection between information disclosure, patent validity, and future technological progress.

This study provides direct empirical evidence of the fact that, and process by which, the public disclosure of patents spurs future technological progress. This informs concerns about patents blocking cumulative innovation. We demonstrate that, as a general rule, as the information content of a patent increases so do both its private value and the productive benefit to society. In so doing, we also introduce new metrics for analyzing the information content of issued patents, providing tools for future research.

### **Intellectual property and the U.S. economy: 2016 update**

Justin Antonipillai (Economics & Statistics Administration)

Michelle K. Lee (U.S. Patent and Trademark Office)

<https://www.uspto.gov/sites/default/files/documents/IPandtheUSEconomySept2016.pdf>

Innovation and creative endeavors are indispensable elements that drive economic growth and sustain the competitive edge of the U.S. economy. The last century recorded unprecedented improvements in the health, economic well-being, and overall quality of life for the entire U.S. population. As the world leader in innovation, U.S. companies have relied on intellectual property (IP) as one of the leading tools with which such advances were promoted and realized. Patents, trademarks, and copyrights are the principal means for establishing ownership rights to the creations, inventions, and brands that can be used to generate tangible economic benefits to their owner.

In 2012, the Department of Commerce issued a report titled Intellectual Property and the U.S. Economy: Industries in Focus (hereafter, the 2012 report). The report identified the industries that rely most heavily on patents, trademarks, or copyrights as IP-intensive and estimated their contribution to the U.S. economy. It generated considerable interest and energized other agencies and organizations to produce similar studies investigating the use and impact of IP across countries, industries, and firms.

This report builds on the 2012 version by providing an update on the impact of IP on our economy and a fresh look at the approach used to measure those results. The update continues to focus on measuring the intensity of IP use, and its persistent relationship to economic indicators such as employment, wages, and value added. While our methodology does not permit us to attribute those differences to IP alone, the results provide a useful benchmark. Furthermore, this and other studies together make clear that IP is a major part of a robust and growing economy.

Accordingly, in an effort to provide a more comprehensive analysis, this report also incorporates findings from other studies that target similar research questions but apply different methodologies. Overall, we find that IP-intensive industries continue to be an important and integral part of the U.S. economy and account for more jobs and a larger share of U.S. gross domestic product (GDP) in 2014 compared to what we observed for 2010, the latest figure available for the 2012 report.

## IP & Litigation

### **Heterogeneity among patent owners in litigation: an empirical analysis of settlement, case progression, and adjudication**

Christopher A. Cotropia (University of Richmond School of Law)

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

David L. Schwartz (Northwestern University Pritzker School of Law)

*Hoover IP<sup>2</sup> Working Paper No. 16008*

<http://hooverip2.org/working-paper/wp16008/>

This paper presents an empirical study of the relationship between the type of patentee-plaintiffs and litigation behavior (e.g., settlement, duration, grant of summary judgment, trial, and procedural dispositions) in patent lawsuits. The paper takes into account, among other factors, the technology of the patents being asserted, the judicial districts where these lawsuits were filed, the judge to whom the case is assigned, and the lawyers representing the patent holder. Using a hand coded unique dataset, the different types of patentee-plaintiffs are broken down on a refined basis, distinguishing among operating companies, patent holding companies, large patent aggregators, individual inventors, universities, and failed start-ups. A variety of empirical approaches are used to study the relationship between patentee entity type and case progression and disposition. Summary statistics, regression results, and duration/survival analysis are presented. As a result, a detailed picture of the relationship between the type of patentee-plaintiffs, choice of patented technology, and venue and litigation outcomes, including settlement, emerges. We find that there is significant heterogeneity among patent holder entity types. Individual inventors, failed operating companies, patent holding companies, and large patent aggregators each have distinct strategies. They appear to litigate differently from each other and from operating companies.

### **Innovation factors for reasonable royalties**

Ted M. Sichelman (University of San Diego School of Law)

*Forthcoming Texas Intellectual Property Law Journal (2017)*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2865022](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2865022)

Patentees who are successful in litigation are entitled to no less than a “reasonable royalty” for the infringing use of the patent. Currently, reasonable royalties are assessed by the fact-finder using the cumbersome, difficult-to-apply fifteen-factor Georgia Pacific test. The Georgia Pacific test has been widely and roundly criticized, and there is general agreement that it too often hinders patent law’s central goal: promoting technological innovation. To improve the reasonable royalty analysis, this Article proposes adding innovation-centric factors to the Georgia Pacific test, including the total amount spent on research & development and commercialization of the invention, taking into account opportunity costs and project-specific risk. Additionally, the Article suggests emphasizing a slightly modified version of one existing innovation-centric, Georgia Pacific factor: the technological benefits offered by the invention when compared to alternative approaches. Like the “objective” factors used to make determinations of whether a patent is obvious, these innovation factors will help fact-finders to make more accurate and more consistent reasonable royalty determinations while more ably advancing patent law’s goal of spurring innovation.

## IP Law & Policy

### Patent claims and patent breadth

Alan C. Marco (United States Patent and Trademark Office)

Joshua D. Sarnoff (DePaul University College of Law)

Charles deGrazia (University of London – Royal Holloway College)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2825317](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2825317)

Patent scope is one of the important aspects in the debates over “patent quality.” The purported decrease in patent quality over the past decade or two has supposedly led to granting patents of increased breadth (or “overly broad” patents), decreased clarity, and questionable validity. Such patents allegedly diminish the incentives for innovation due to increased licensing and litigation costs. However, these debates often occur without well-defined measurements of patent scope. This paper explores two very simple metrics for measuring patent scope based on claim language: independent claim length and independent claim count. We validate these measures by showing that they have explanatory power for several correlates of patent scope used in the literature: patent maintenance payments, forward citations, the breadth of patent classes, and novelty. Using these data, we provide the first large-scale analysis of patent scope changes during the examination process. Our results show that narrower claims at publication are associated with a higher probability of grant and a shorter examination process than broader claims. Further, we find that the examination process tends to narrow the scope of patent claims in terms of both claim length and claim count, and that the changes are more significant when the duration of examination is longer.

### The fruit of the poisonous tree in IP law

Mark A. Lemley (Stanford Law School)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2867099](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2867099)

If a police officer searches my home illegally and finds evidence of a crime there, the criminal law suppresses not only that evidence, but evidence derived from the search that was not itself found illegally. This doctrine is known as the “fruit of the poisonous tree.” The animating principle of the fruit of the poisonous tree doctrine is but-for causation: if you had not violated the law, you wouldn’t have found the evidence, and so you wouldn’t have followed whatever investigative path was triggered by the finding of that evidence. The newly discovered evidence – the fruit – is tainted by the poison of the illegal search.

Civil law also concerns itself with chains of causation, both in determining liability and in ordering relief. But civil does not apply the logic of the fruit of the poisonous tree to chase down every consequence of a wrong. Tort law, for example, requires proof not only of but-for causation but also that the defendant was a sufficiently proximate cause of the injury. Plaintiffs can recover for some (but not all) unforeseeable consequences. And while remedies law generally tries to return plaintiffs to their rightful position, compensating them for injuries and giving them what they could have expected to receive absent the wrong, it also limits both who can obtain compensation and the sort of thing for which they can be compensated.

Intellectual property (IP) regimes in particular struggle with causation issues in one important set of

cases: defendants who infringe an IP right in the course of making a product that does not itself infringe that right. Suppose, for instance, that I copy your song onto my laptop in order to make my own song that samples yours. Depending on how much I use, the final song I release may not infringe your copyright, but intermediate versions of my song might, as might the original copy. Or suppose I use a patented microscope without permission to make a scientific discovery that turns into a new drug. The drug doesn't infringe the patent, which is, after all, on a microscope, not a chemical. But the act of research might infringe. Or I might steal your product to figure out how it works, not so that I can copy it but so I can make a one that works a different way. My final product doesn't incorporate your secret, but I used my ill-gotten knowledge of your product to get there.

IP law is all over the map in dealing with such cases. Some IP regimes, like trade secret law, apply the fruit of the poisonous tree logic, allowing the plaintiff to recover not only for the profits the defendant made from secrets she actually stole and used but also for the profits of any product that resulted from the use of those secrets. It will also grant a "head-start" injunction against even non-infringing products. Copyright law, by contrast, does not permit a plaintiff either to obtain an injunction or to recover damages against non-infringing final products. Patent law is somewhere in between, refusing to enjoin non-infringing products but leaving the door open to reach-through royalty claims.

It is not clear that these differences reflect any considered judgment about when IP law should prevent or punish the making and sale of non-infringing products tainted by infringement in the process of creation. In this article, I offer a cohesive way to think about the fruit of the poisonous tree in IP law. Whether IP remedies should extend to tainted but non-infringing products should be a function of the mental state of the infringer, the likelihood that infringement will be detected, and the contribution made by the final, non-infringing product. Balancing those three factors won't necessarily lead all IP regimes to treat the fruit of the poisonous tree in the same way. But it does both explain and suggest some needed reforms to the current legal rules.

## Copyright Law

### **Copyright reform, GS media and innovation climate in the EU – euphonious chord or dissonant cacophony?**

Martin Senftleben (VU University Amsterdam – Faculty of Law)

*Tijdschrift voor auteurs-, media- en informatierecht* 2016

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2865258](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2865258)

The copyright reform package tabled by the European Commission and the decision of the Court of Justice in GS Media caused an earthquake in EU copyright law. The reform plans will hardly lead to a 'modern' copyright framework, as announced by the Commission in its communication 'Towards a Modern, More European Copyright Framework' of 9 December 2015. In the GS Media case concerning hyperlinks to leaked Playboy magazine photographs, the Court seems to downgrade copyright to a mere unfair competition claim in an attempt to regulate hyperlinks to illegal online content on the basis of harmonized EU copyright law. From the perspective of innovation policy, both developments appear problematic.

Neither the copyright reform nor the GS Media decision seem conducive to the innovation climate in the EU. Instead of less market entrance barriers and more room for new business models, the copyright reform and the GS Media decision are likely to lead to further market concentration and less room for new business models. Given the fact that the conceptual contours of a 'modern', innovation-friendly copyright regime for the digital era have already been drawn quite clearly in various copyright research

projects and related literature, it is difficult to understand why EU policy makers and courts still have so much difficulty to develop an appropriate legal framework.

### **3D printing and US copyright law**

Peter S. Menell (University of California, Berkeley – School of Law)

Ryan G. Vacca (University of Akron School of Law)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2859737](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2859737)

This article explores how 3D printing fits within US copyright law. US copyright law provides a well-developed general framework for the protection of creative designs, whether fixed in CAD files or 3D objects. Enforcement of copyright protection in this industry faces some of the same challenges encountered by other content industries whose works were disrupted by the digital revolution. Nonetheless, 3D printing brings distinctive issues. Although grounded in statute, US copyright law has a rich common law tradition that affords courts significant leeway in adapting doctrines to new and unforeseen technological developments. This capacity is reinforced by the range of business strategies available for confronting appropriability challenges. Thus, this article surveys the 3D printing terrain on three levels: (I) copyrightability of CAD files and 3D objects; (II) enforcement challenges; and (III) business strategies. The ultimate governance regime will depend upon the business strategies that copyright owners and disruptive businesses pursue, the extent to which courts adapt copyright doctrines to new and unforeseen challenges, and the Copyright Office's exemptions under the DMCA's anti-circumvention provisions.

## **IP & Asia**

### **Patents and competition law in India: CCI's reductionist approach in evaluating competitive harm**

Yogesh Pai (National Law University Delhi, Centre for Innovation, IP and Competition)

Nitesh Daryanani (Centre for Innovation, Intellectual Property and Competition)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2859546](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2859546)

The objective of this paper is to examine the CCI's reasoning and approach in patent – related cases, in light of (i) the legislative framework governing competition and patent law in India, (ii) the economic theories that govern the intersection between antitrust and patent law, and (iii) the manner in which competition agencies in comparative jurisdictions have dealt with similar agreements and conduct by a patent holder.

Part 1 of this paper deals with an analysis of the distinction between sections 3 and 4 of the Competition Act 2002, in light of the CCI's tendency to conflate issues pertaining to abuse of dominance and evaluation of anti-competitive agreement involving patents. Part 2 deals with constraints on pricing imposed in several CCI rulings. Part 3 deals with nonprice licensing restrictions as constituting abuse of dominance. Part 4 deals with cases involving a refusal to deal where products are protected by IP rights or proprietary technologies. Part 5 deals with the practice of price discrimination in unified systems markets dominated by intellectual property.

## Other IP Topics

### **A new dataset on mobile phone patent license royalties**

Alexander Galetovic (Universidad de los Andes)

Stephen Haber (Department of Political Science and Hoover Institution, Stanford University)

Lew Zaretzki (Hamilton IPV)

*Hoover IP2 working Paper No. 16011*

<http://hooverip2.org/working-paper/wp16011/>

This note describes a new dataset to estimate the Average Cumulative Patent Royalty Yield paid in the mobile phone value chain—the sum total of patent royalty payments earned by licensors, divided by the total value of mobile phones shipped. We estimate the Average Cumulative Royalty Yield for 32 identified licensors at 3.3 percent of the value of a mobile phone in 2015. Our analysis indicates that this royalty yield has been stable over time. A sensitivity analysis indicates that, even under a set of generous assumptions, an upper bound estimate of the Average Cumulative Royalty Yield on a smartphone did not exceed 5.5 percent in 2015. We invite users of this dataset to share their ideas, suggestions, and corrections with us so that they may be potentially included in future versions.

### **Standard-essential patents within global networks – an emerging economies perspective**

Dieter Ernst (East-West Center; Centre for International Governance Innovation)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2873198](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2873198)

Efficient licensing of standard-essential patents (SEPs) is crucial for achieving a rapid and broad-based diffusion of innovation. Owners of large SEP portfolios (and their supporters) argue that the governance of SEPs works reasonably well and that patent holdup and other negative effects are “purely theoretical”. In reality however, the governance of SEPs remains highly inefficient.

Nobel prize laureate Jean Tirole as well as Carl Shapiro, Mark Lemley, Josh Lerner and many others have painstakingly documented that the licensing of SEPs is prone to market failures such as externalities (both positive and negative), information problems, market power and free-riding, which might hinder the realization of the economic and societal benefits of the affected standards. There is no doubt that SEP-related market imperfections continue to constrain standard implementers (both large and small) who are increasingly opposed to this form of “technology taxation”.

This paper addresses two unresolved issues. First, most of the existing SEP research has focused on advanced countries. It is time to address growing concerns in emerging and developing countries that SEP-related market failures may create added uncertainty for their companies, generating unpredictable and often quite significant costs and delaying market entry of their products. Second, such SEP-related market failures are even more important in a world where increasingly complex and diverse global corporate networks integrate dispersed production, engineering, product development and research across geographic borders. The paper seeks to extend the analysis of SEPs to include challenges that companies from an emerging economy face that when they are deeply integrated into these global networks of production (GPNs) and innovation (GINs).

The paper summarizes what we know about SEP-related market failures and their impacts on standard implementers, and highlight drivers and the hierarchical nature of GPNs and GINs, distinguishing network flagships and different layers of network suppliers. I will then discuss a new “gains from trade” doctrine for economic development, promoted by the OECD, the WTO, and the World Bank, which emphasizes the role of global network integration as “the 21st century’s fast lane to industrial development”. I will

show that participation in these global corporate networks raises new challenges, especially for lower-tier suppliers, many of them based in emerging or developing countries. I will describe restrictions imposed by the new “gains from trade” doctrine on national innovation policies, especially with regard to patents and standards. These restrictions may well constrain the capacity of those companies to cope with the imperfect governance of SEPs.

It is on this basis that I will then sketch out a preliminary research agenda for exploring impacts that Chinese companies may face within GPNs or GINs. In the Conclusions, I will review suggested responses to some of these market failures, using illustrative examples from standard development organizations and competition policy.

### **About the editor**

**Dr. Anne Layne-Farrar** is a vice president in the Antitrust & Competition Economics Practice of CRA. She specializes in antitrust and intellectual property matters, especially where the two issues are combined. She advises clients on competition, intellectual property, regulation, and policy issues across a broad range of industries with a particular focus on high-tech and has worked with some of the largest information technology, communications, and pharmaceuticals companies in the world.

### **Contact**

For more information about this issue of *IP Literature Watch*, please contact the editor:

Anne Layne-Farrar  
Vice President  
Chicago  
+1-312-377-9238  
[alayne-farrar@crai.com](mailto:alayne-farrar@crai.com)

[www.crai.com/antitrust](http://www.crai.com/antitrust)

[www.crai.com/ip](http://www.crai.com/ip)

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