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The application of competition policy vis-à-vis intellectual property rights: the evolution of thought underlying policy change

Robert D. Anderson and William E. Kovacic¹

Abstract

This paper examines the evolution of national competition (antitrust) policies and enforcement approaches vis-à-vis intellectual property rights (IPRs) and associated anti-competitive practices in major jurisdictions over the past several decades. It focuses especially on the underlying process of economic learning that has, the authors suggest, driven relevant policy changes. Part 2 of the paper outlines the breakthroughs in understanding that have underpinned the evolution of competition policy approaches toward intellectual property licensing arrangements in the US, Canada and the EU. Part 3 elaborates the foundational insights that have motivated competition policy interventions with respect to 'newer' issues such as anti-competitive patent settlements and hold-ups in relation to standard setting processes, in addition to the modern focus on mergers that potentially lessen incentives for innovation and on abuse of dominance/single firm exclusionary practices in IP-intensive network industries. Part 4 outlines some of the core policy concerns and insights driving the increased emphasis that leading competition authorities now devote to policy advocacy and research in relation to the scope and definition of IP rights. Overall, the analysis suggests, firstly, that competition policy applications in the intellectual property sphere are matters of fundamental importance for economic advancement and prosperity, having a direct bearing on innovation, growth and the diffusion of new technologies. Indeed, the roles of IP and competition policy are now sufficiently intertwined and interdependent that neither can be well understood or applied in an optimal fashion in the absence of the other. Secondly, the thought evolution described herein implies that successful policy applications require careful study of market structure and behaviour, not in the abstract but with reference to the particular markets affected. Thirdly, it augurs favourably for the prospects of continuing gradual and incremental convergence in national approaches in this area, even spanning developed and developing countries, on the basis of continual learning and informed self-interest.

Key words: intellectual property, patents, international trade and competition policy, antitrust, innovation, mergers, anti-competitive settlements, standards, network industries, competition advocacy.

JEL classifications: K21, L4, L41, L43, O3, O34

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I. Introduction

The treatment of intellectual property rights (IPRs) and associated firm practices by leading competition agencies has undergone far-reaching changes in the working lifetimes of many current practitioners, including ourselves. In most jurisdictions, antiquated 'per se' approaches to IPR licensing practices previously viewed as irredeemably harmful to competition have long given way to 'rule of reason' or case-by-case approaches that require consideration of potential justifications and/or ameliorating circumstances or, at the very least, employ structural screens to avoid unnecessary policy interventions.² At the same time, important enforcement actions have been taken, in diverse jurisdictions, against a broad range of other practices implicating the role of intellectual property, including mergers deemed likely to undermine incentives for innovation; anti-competitive settlements in patent litigation cases relating to prospective entry by generic suppliers in the pharmaceutical sector; 'hold-ups' involving undeclared patents in standard-setting processes; and unilateral abuses of market power derived (at least in part) from IPRs, in high-technology industries.³

In addition, following a period in which competition authorities largely deferred to intellectual property offices with respect to issues concerning the scope and legitimacy of patents and other IPRs, leading agencies such as the United States Federal Trade Commission (FTC) and Department of Justice, the European Commission, the Canadian Competition Bureau and others have devoted significant resources to advocacy efforts aimed at ensuring the integrity of patent regimes and avoiding the issuance/recognition of ill-founded rights that potentially weaken competition or impede follow-on innovation without serving valid off-setting purposes.⁴ The activities of patent assertion entities (i.e., 'trolls') and other practices have similarly come under scrutiny.⁵ Such efforts represent an important complement to the agencies' enforcement actions particularly in circumstances where the intellectual property system is itself the source of unnecessary impediments to competition. In such circumstances, direct action to correct the underlying problem is likely to be a far more efficient solution than the repeated enforcement actions that might otherwise be necessary.⁶

On the surface, there might appear to be a random character to these patterns of intervention and non-intervention by competition agencies in relation to IPRs, akin to perceptions

² See, for supporting details, Part 2 below and, more generally, Robert D. Anderson, Anna C. Müller, Philippe Pelletier, Jianning Chen, Daria Novozhilkina, Nivedita Sen and Nadezhda Sporysheva, 'The Application of Competition Policy vis-à-vis Intellectual Property: a Comparison of Jurisdictional Approaches', to be published in Robert D. Anderson, Nuno Pires De Carvalho and Antony Taubman (eds.), *Competition Policy and Intellectual Property in the Global Economy* (Cambridge, Cambridge University Press, World Intellectual Property Organization and World Trade Organization, forthcoming 2018).

³ See Part 3, below, and references cited therein.

⁴ See Part 4, below.

⁵ See Federal Trade Commission, Patent Assertion Entity Activity: An FTC Study (October 2016). Available at https://www.ftc.gov/system/files/documents/reports/patent-assertion-entity-activity-ftc-study/p131203_patent_assertion_entity_activity_an_ftc_study_0.pdf.

⁶ William E. Kovacic, 'Intellectual Property Policy and Competition Policy' (2011) 66 *New York University Annual Survey of American Law* 421. See also Robert D. Anderson, S. Dev Khosla and Mark F. Ronayne, 'The Competition Policy Treatment of Intellectual Property Rights in Canada: Retrospect and Prospect', in R.S. Khemani and W.T. Stanbury (eds.), *Canadian Competition Law and Policy at the Centenary* (Institute for Research on Public Policy, 1991), pp. 497-538.

of 'swinging pendulums' in other domains of competition policy and law enforcement.⁷ In this chapter, we take a different view. The evident evolution of competition policies and enforcement approaches vis-à-vis IPRs over the past several decades derives first and foremost, we suggest, from a far-reaching process of economic learning that has taken place during the same period. The learning process has encompassed, in addition to other aspects: (i) improved understanding of the role and effects of vertical licensing practices and single-firm exclusionary conduct, including new understanding of the harmful effects of a range of specific practices associated with the exercise of IP; (ii) a far more subtle understanding of the role of intellectual property itself in relation to market power and its exercise than competition agencies once held; and (iii) a better appreciation of problems associated with IP regimes themselves, and the role that both competition enforcement and advocacy work can play in addressing adverse implications for competition, innovation and the diffusion of new inventions and creative works.

The foregoing interpretation is not particularly original - indeed, as we shall point out, it builds directly on important scholarly work and on new thinking processes in the relevant agencies themselves, beginning now several decades ago. We, nonetheless, believe it is useful to set out in an integrated fashion some of the most important insights underlying the evolution and adaptation of enforcement policies in this area. This is the purpose of this chapter. This is important, in part, to help younger enforcement agencies and competition law jurisdictions to learn from the experiences of older ones and to avoid, where possible, the unnecessary replication of their policy errors. Perhaps, it will also contribute to what we see as an ongoing gradual process of learning-based international convergence in this subject-area.

The issues discussed in this paper are also of direct relevance to the role and application of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), in that recognition of the scope for and role of competition policy in relation to IP is an important part of the flexibilities and balance built into that Agreement. At the same time, the relevant provisions of the Agreement (especially Article 40 and 31) provide relatively little in the way of practical guidance for jurisdictions wishing to implement relevant measures. For this, we must look, at least in part, to WTO Members' experience at the national level and to related scholarly analysis and reflection.⁸

The evolution of thinking set out in this chapter carries major implications for the core concerns and premises of the broader volume of which it will form a part. It suggests, firstly, that competition policy applications in the intellectual property sphere are matters of fundamental importance for economic advancement and prosperity, having a direct bearing on innovation and the diffusion of new technologies. Indeed, as we will suggest, the role of IP and related

⁷ See, regarding the dubious merits of the pendulum hypothesis in regard to single-firm exclusionary practices, William E. Kovacic, 'The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix' (2007) *Colum. Bus. L. Rev.* 1.

⁸ See Robert D. Anderson and Anna Caroline Müller, 'Competition policy and the WTO TRIPS agreement: an essential platform for policy application, and questions unresolved', forthcoming in Anderson et al., above note 2, chapter 2.

applications of competition policy are now sufficiently intertwined and interdependent that neither can be well understood or applied in an optimal fashion in the absence of the other.⁹ Secondly, the thought evolution that we describe implies that successful policy applications require careful study of market structure and behaviour, not in the abstract but with reference to the particular markets affected. And thirdly, it augurs favourably for the prospects of continuing gradual and incremental convergence in national approaches in this area, spanning developed and developing countries, on the basis of continual learning and informed self-interest as opposed to top-down coordination.

Two important limitations on the scope of the analysis must be noted. First, while the insights and concepts to which we will point have, we believe, broad application, our historical reflections and thinking are informed principally by the experience of the jurisdictions that we know best, namely the United States, the European Union and Canada. This approach is nonetheless valid and illuminating, we submit, in that many of the essential learning processes and policy innovations influencing developments elsewhere initially took place principally in those jurisdictions. This is *not* to suggest that this will always be the case.¹⁰ Second, the focus, throughout, is on the insights and conceptual breakthroughs that have (in our view) animated policy changes, as opposed to a detailed accounting of policy changes across jurisdictions. Where appropriate, we attempt to remedy this deficiency through references to other chapters of this book and/or other research that (we believe) bears out our underlying premises.¹¹

The remainder of the chapter is structured as follows. Part 2 outlines the breakthroughs in understanding that have underpinned the evolution of competition policy approaches toward intellectual property licensing arrangements in the US, Canada and the EU. These have, we suggest, been important not only for the evolution of policy stances toward licensing arrangements in other jurisdictions but also for the treatment of intellectual property rights in those jurisdictions more generally. Part 3 elaborates the foundational insights that have animated competition policy interventions with respect to 'newer' issues such as anti-competitive patent settlements and hold-ups in relation to standard setting processes in addition to the modern focus on mergers that potentially lessen incentives for innovation and on abuse of dominance/single firm exclusionary practices in IP-intensive network industries. The key here, we suggest, has been a focus on specific behaviours and contexts associated with intellectual property rights that are likely to have anti-competitive consequences (as opposed to the more generalized scepticism of the role of IPRs that sometimes motivated competition law interventions in the past). Part 4 outlines some of the core policy concerns and insights driving the increased emphasis that leading competition

⁹ See also William E. Kovacic and Andreas P. Reindl, 'An Interdisciplinary Approach to Improving Competition Policy and Intellectual Property Policy' (2004) 28 *Fordham Int'l L.J.* 1062. Available at <http://ir.lawnet.fordham.edu/ilj/vol28/iss4/7>.

¹⁰ See William E. Kovacic, 'From Microsoft to Google: Intellectual Property, High Technology, and the Reorientation of U.S. Competition Policy and Practice' (2013) 23 *Fordham Intell. Prop. Media & Ent. L.J.* 645. Available at: <http://ir.lawnet.fordham.edu/iplj/vol23/iss2/9>.

¹¹ See, especially, Anderson et al., above note 2.

authorities now devote to policy advocacy and research in relation to the scope and definition of IP rights. Part 5 provides concluding remarks.

II. The early evolution of policy relating to the treatment of licensing arrangements: underlying insights informing diverse aspects of the competition policy-intellectual property interface

The principal early area of evolution in the competition policy treatment of IP in the US, Canada and the EU concerned the treatment of patent and other technology licensing arrangements. The US, followed by Canada, led the process. In broad terms, these jurisdictions transitioned from enforcement approaches that condemned many vertical licensing practices out of hand ('per se rules') to a considerably more nuanced approach entailing case-by-case analysis of competing pro- and anti-competitive explanations of the practices in question.¹² Account was also taken of structural conditions (especially, the existence of competing technologies) that, in many cases, limit the possibility of anti-competitive effects.

More specifically, the far-reaching evolution of the treatment of licensing arrangements in key developed jurisdictions – from one of ostensibly strict or 'per se' prohibition to a broadly permissive case-by-case approach - reflected, in our view, three fundamental innovations in competition policy and economic thought. First, the treatment of restrictive intellectual property licensing arrangements that are inherently vertical in nature (i.e., they are imposed on/by firms at succeeding levels of particular technology-based production chains) was greatly influenced by the revision of thinking and enforcement approaches concerning vertical market restraints generally. Key elements of this revision in thinking, broadly but not exclusively associated with the 'Chicago School' of antitrust analysis, included the realizations that: (i) such restraints, in many circumstances, are capable of serving pro-competitive purposes relating e.g. to the incentivizing of efficient conduct by licensees/downstream dealers; and (ii) where inter-brand competition (i.e. rivalry between competing brands or technologies) exists, the possibility of any harm to the welfare of users (consumers) will at a minimum be reduced or even eliminated.¹³

Applying this logic to the field of licensing arrangements, the 1995 Department of Justice-Federal Trade Commission Antitrust Guidelines for the Licensing of Intellectual Property (the '1995 US DOJ-FTC Guidelines') observed as follows:

Licensing, cross-licensing, or otherwise transferring intellectual property can facilitate integration of the licensed property with complementary factors of production. This integration can lead to more efficient exploitation of the intellectual property, benefiting consumers through the reduction of costs and the introduction of new products. Such

¹² In the US, the transition has been extensively documented by scholars and practitioners and a long recitation of sources is not needed. See, for a comprehensive treatment, Willard K. Tom and Joshua A. Newberg, 'US Enforcement Approaches to the Antitrust-Intellectual Property Interface' (1997) 66 *Antitrust L.J.* 167. With respect to the parallel (somewhat lagged) evolution of policy in Canada, see Anderson, Khosla and Ronayne, above note 6.

¹³ A classic reference is Frank H. Easterbrook, 'Vertical Arrangements and the Rule of Reason: Antitrust Law Enforcement in the Vertical Restraints Area' (1984) 53 *Antitrust Law Journal* 135; the underlying insights date back at least to the US Supreme Court opinion in the then path-breaking case of *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977).

arrangements increase the value of intellectual property to consumers and to [intellectual property owners].¹⁴

The above language is carried over without substantive amendment in the updated version of the DOJ-FTC Guidelines that was released by the two agencies on 13 January 2017 (the '2017 US DOJ-FTC Guidelines').¹⁵ Similar observations are contained in the Intellectual Property Enforcement Guidelines issued by the Canadian Competition Bureau in 2000 and (in amended form) in 2016 ('Canada's IPEGs').¹⁶

An important corollary of the above is that, in addition to under-enforcement of national competition policies vis-à-vis intellectual property rights, economic welfare can be reduced by over-enforcement of such policies (i.e. excessively sweeping or *per se* condemnation of practices that can, in particular circumstances, be welfare-enhancing). In this regard, the position articulated in the 1995 US DOJ-FTC Guidelines in is apposite:

Field-of-use, territorial, and other limitations on intellectual property licenses may serve pro-competitive ends by allowing the licensor to exploit its property as efficiently and effectively as possible. These various forms of exclusivity can be used to give a licensee an incentive to invest in the commercialization and distribution of products embodying the licensed intellectual property and to develop additional applications for the licensed property. The restrictions may do so, for example, by protecting the licensee against free-riding on the licensee's investments by other licensees or by the licensor. They may also increase the licensor's incentive to license, for example, by protecting the licensor from competition in the licensor's own technology in a market niche that it prefers to keep to itself.¹⁷

Again, the above language is carried over without substantive amendment in the 2017 updated version of the DOJ-FTC Guidelines. Similar observations are contained in the Intellectual Property Enforcement Guidelines issued by the Canadian Competition Bureau in 2000 and the 2016.

Second, related to the above and in contrast to previously prevailing thinking, the realization dawned that IPRs do not, in most cases, constitute 'monopolies' in an economically meaningful sense. The reason for this is simple, yet powerful: in many or (possibly) most cases, competing technologies or other IP exist that effectively preclude the exercise of market power by individual rights-holders.¹⁸ As affirmed in both the 1995 and the 2017 US DOJ-FTC Guidelines (in identical language):

¹⁴ 1995 US DOJ-FTC Guidelines, Part 2.3. Available at <https://www.justice.gov/sites/default/files/atr/legacy/2006/04/27/0558.pdf>.

¹⁵ Available at <https://www.justice.gov/atr/IPguidelines/download>.

¹⁶ Available at [http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/cb-IPEG-e.pdf/\\$file/cb-IPEG-e.pdf](http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/cb-IPEG-e.pdf/$file/cb-IPEG-e.pdf). For more detailed discussion see Anderson et al, above note 2.

¹⁷ See above note 14.

¹⁸ See, for an early statement reflecting this insight, J. Paul McGrath [then Assistant Attorney-General for Antitrust], 'Patent Licensing: a Fresh Look at Antitrust Principles in a Changing Economic Environment' (1984) 82.9 *Patent and Trademark Review* 355-65.

The agencies will not presume that a patent, copyright, or trade secret necessarily confers market power upon its owner. Although the intellectual property right confers the power to exclude with respect to the *specific* product, process, or work in question, there will often be sufficient actual or potential close substitutes for such product, process, or work to prevent the exercise of market power.¹⁹

Again, a similar declaration is made in Canada's IPEGs. As well, it should be noted that, following early resistance by a majority of the US Supreme Court,²⁰ the US Guidelines' view has now been adopted in US Supreme Court jurisprudence (see *Illinois Tool Works, Inc. v. Independent Ink, Inc.*, 126 S. Ct. 1281 (2006)).

A third logical insight underlying the evolution of policy in this area is that, even where IP rights do, in particular cases, generate market power, they may nonetheless serve the over-riding purpose of promoting competition in a dynamic sense. As stated in the 1995 DOJ-FTC Guidelines:

The intellectual property laws provide incentives for innovation and its dissemination and commercialization by establishing enforceable property rights for the creators of new and useful products, more efficient processes, and original works of expression. In the absence of intellectual property rights, imitators could more rapidly exploit the efforts of innovators and investors without compensation. Rapid imitation would reduce the commercial value of innovation and erode incentives to invest, ultimately to the detriment of consumers.²¹

In this language, the agencies were acknowledging both the importance for economic progress of the 'Schumpeterian' dimension of competition in which, through a process of 'creative destruction', inferior products and processes are continually replaced by superior ones,²² and the legitimate role of intellectual property in propelling this process. The Schumpeterian perspective and, more generally, greater emphasis on the dynamic aspects of competition also underlay, to an important degree, the 1990s literature on 'innovation markets' that motivated and guided competition law interventions to block mergers that threatened to weaken incentives for innovation.²³ At the same time, and importantly, competition policy analysis and enforcement measures largely avoided being trapped in an excessively narrow and deferential application of Schumpeterian thinking that would unnecessarily privilege market power or inhibit appropriate enforcement activities by competition authorities where they are, in fact, warranted.²⁴

¹⁹ See the 1995 US DOJ-FTC Guidelines, section 2.2, and the 2017 US DOJ-FTC Guidelines, also section 2.2.

²⁰ See the opinion of Justice Stevens in *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984). See also the strong dissenting opinion of Justice O'Connor in the same case, reflecting the new reasoning referenced above and presaging its ultimate acceptance by the Court.

²¹ 1995 US DOJ-FTC Guidelines, Part 1.

²² Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* (Routledge, 1942; reissued by George Allen & Unwin: London, 1976). Empirical evidence concerning related hypotheses is detailed in Wesley Cohen and Richard C. Levin, 'Empirical Studies of Innovation and Market Structure', in Richard Schmalensee and Robert D. Willig, *Handbook of Industrial Organization 2* (North-Holland, 1989).

²³ The seminal contribution was Richard Gilbert and Steven Sunshine, 'Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets' (1995) 63.2 *Antitrust Law Journal* 569-602. See also Richard J. Gilbert & Willard K. Tom, 'Is Innovation King at the Antitrust Agencies? The Intellectual Property Guidelines Five Years Later' (2001) 69.1 *Antitrust Law Journal* 43-86 (discussing, inter alia, application of the innovation markets concept in U.S. federal antitrust enforcement). See, for related commentary, this section, below.

²⁴ See Jonathan B. Baker, 'Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation' (2007) 74.3 *Antitrust Law Journal*, and, for discussion and elaboration, Part III, below.

As a fourth logical element, building on all of the above, the competition agencies of the US and Canada famously embraced the view that, for purposes of competition law enforcement, intellectual property rights can most reasonably be treated as analogous to other forms of property, including real property. As affirmed in the 1995 US DOJ-FTC Guidelines:

The Agencies apply the same general antitrust principles to conduct involving intellectual property that they apply to conduct involving any other form of tangible or intangible property. That is not to say that intellectual property is in all respects the same as any other form of property. Intellectual property has important characteristics, such as ease of misappropriation, that distinguish it from many other forms of property. These characteristics can be taken into account by standard antitrust analysis, however, and do not require the application of fundamentally different principles.²⁵

Taking account of all of the above, the competition agencies of the US and Canada affirmed the 'common purposes' of the two fields. As stated by the 1995 DOJ-FTC US Guidelines:

The intellectual property laws and the antitrust laws share the common purpose of promoting innovation and enhancing consumer welfare. The intellectual property laws provide incentives for innovation and its dissemination and commercialization by establishing enforceable property rights for the creators of new and useful products, more efficient processes, and original works of expression. [...] The antitrust laws promote innovation and consumer welfare by prohibiting certain actions that may harm competition with respect to either existing or new ways of serving consumers.²⁶

The foregoing view also is now reflected in US appellate jurisprudence.²⁷

One element of the conceptual underpinnings of the 1995 DOJ-FTC Guidelines that was subsequently revisited and reassessed, to an extent, by the relevant agencies was the idea of 'innovation markets'.²⁸ As put forward in the 1995 DOJ-FTC Guidelines:

An innovation market consists of the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development. The close substitutes are research and development efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example, by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development.²⁹

The utility of the idea of innovation markets was met with skepticism on the part of analysts who questioned both its susceptibility to concrete application and whether it added value in comparison to existing analytical tools, notably the concept of potential competition.³⁰ Subsequently, in the 2017 revision to the Guidelines, references to innovation markets were dropped in favor of references to the more concrete concept of research and development markets. Still, the idea of

²⁵ 1995 US DOJ-FTC Guidelines, above note 14, Part 2.1.

²⁶ 1995 US DOJ-FTC Guidelines, above note 14, Part 1.0.

²⁷ See, e.g., *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (1990) in which the Court observed as follows: '[T]he aims and objectives of patent and antitrust laws may seem, at first glance, wholly at odds. However, the two bodies of law are actually complementary, as both are aimed at encouraging innovation, industry and competition'.

²⁸ See, for relevant background, Gilbert and Sunshine, above note 23.

²⁹ 1995 US DOJ-FTC Guidelines, above note 14, Part 3.2.3.

³⁰ See, for a summary of the debate, Roscoe B. Starek III, *Innovation Markets in Merger Review Analysis: The FTC Perspective*, 23 February 1996. Available at <https://www.ftc.gov/es/public-statements/1996/02/innovation-markets-merger-review-analysis-ftc-perspective>.

innovation markets and the literature that it spawned served to galvanize both a very appropriate focus by enforcement agencies on mergers and other practices that weaken or vitiate incentives for R&D/related activities and a lasting interest in the significance of competition law enforcement for innovation and economic progress on the part of practitioners and academics alike.³¹

Another element of the thought evolution process described above which has been challenged in some quarters concerns the analogizing of intellectual property to other forms of property, including real property. A key insight here is that patent rights are inherently more probabilistic in nature than real property rights. As observed by Lemley and Shapiro:

Virtually all property rights contain some element of uncertainty. The owner of real estate may find that the title to that property is flawed; title insurance exists to deal with this risk. The (careless) owner of a trademark may find that its mark has been used so widely as to become a generic term, thus losing trademark protection. But the uncertainty associated with patents is especially striking, and indeed is fundamental to understanding the effects of patents on innovation and competition. There are two fundamental dimensions of uncertainty: 1) uncertainty about the commercial significance of the invention being patented, and 2) uncertainty about the validity and scope of the legal right being granted.³²

As the authors go on to observe, uncertainty regarding the commercial significance of patents is critical when studying the processes by which they are issued. Uncertainty about validity and scope are important in evaluating issues concerning patent litigation and enforcement. As well, both forms of uncertainty impact on (and can materially diminish) the incentives that patents are intended to create.³³

An important related insight shared by many current thinkers is that intellectual property rights – perhaps especially patents – arguably exhibit greater incentives for and susceptibility to opportunistic or anticompetitive behavior as compared to most forms of real property. Indeed, differences with other forms of property rights are also acknowledged, to an extent, in the 2017 US DOJ-FTC Guidelines.³⁴ More pointedly, two prominent scholars in the field, Fiona Scott Morton and Carl Shapiro, have made the observation that, while 'it has been popular to assert that intellectual property is not fundamentally different from other assets, [such an approach] does not address fundamental differences between most forms of real property, such as real estate, and questionable patents with vague boundaries'.³⁵ Indeed, these differences between IPRs and real property need to be acknowledged, though defenders of the analogy to 'other forms of property' argue that this can still be done within the Guidelines' approach.³⁶ At a minimum, we would agree

³¹ See Part 4, below.

³² See, e.g., Mark A. Lemley and Carl Shapiro, 'Probabilistic Patents' (2005) 19 *J. Econ. Perspectives* 75.

³³ Lemley and Shapiro, above note 32.

³⁴ The Guidelines observe, for example, that 'Intellectual property has important characteristics, such as ease of misappropriation, that distinguish it from many other forms of property'. See 2017 US DOJ-FTC Guidelines, above note 14, section 2.1.

³⁵ Fiona M. Scott Morton and Carl Shapiro, 'Strategic Patent Acquisitions' (2014) 79 *Antitrust L.J.* at 1. Initial version available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2288911.

³⁶ Joshua D. Wright, *Does the FTC have a New IP Agenda? Remarks delivered at the 2014 Milton Handler Lecture on 'Antitrust in the 21st Century*, 11 March 2014. Available at https://www.ftc.gov/system/files/documents/public_statements/288861/140311ipagenda.pdf.

that, in assessing the role of IPRs as a potential source of market power, it is indeed important to bear in mind the characteristics that distinguish them from real property.

The evolution in thinking described above, in any case, eventually animated far-reaching parallel changes in enforcement policies in other jurisdictions, notably the European Union and Japan. In the EU, an early 'Block exemption regulation' for licensing arrangements which was based, to a considerable extent, on legal formalism, intrinsic suspicion of intellectual property rights and the over-riding objective of creating a unified European market gave way, eventually, to the present (2014) regulation,³⁷ embodying a modern, economics-based approach that resembles the US and Canadian approaches in its effects if not in its legal form.³⁸ Likewise, a far-reaching transformation has taken place in Japan's treatment of intellectual property licensing arrangements under its competition law, from one of legal formalism and an avowed stress on industrial policy objectives to a more economics-based approach recognizing both the potentially benign effects of 'restrictive' licensing arrangements and the importance of competing technologies as a check on market power.³⁹

The foregoing insights and breakthroughs were, we suggest, the core ideas motivating the 'early' evolution of enforcement policies in the area of the competition policy-intellectual property interface (i.e., the adjustments that took place in the US and Canada in the 1980s and 1990s, and in the EU, Japan and other jurisdictions in the 1990s and the early twenty-first century). Policy implementation in this area has, however, certainly not stood still since then. The conceptual breakthroughs and developments underlying policy change in this period (broadly, since the issuance of the 1995 DOJ-FTC Guidelines) are the subject of the next section of this chapter.

III. Insights and improvements in understanding underlying more recent changes in competition enforcement policies

Policy adaptation regarding the competition policy-intellectual property interface has continued apace since the second half of the 1990s. Two principal trends can be identified: first, concerning the enforcement of competition laws, attention and enforcement activity have shifted from licensing arrangements to a range of other specific behaviours and contexts deemed to entail significant risks of anti-competitive consequences (e.g., mergers that threaten to undermine the incentives for innovation in particular markets; anti-competitive patent settlement agreements; patent thickets and arrangements to facilitate their successful navigation; 'hold-ups' in the context of arrangements governing access to standard-essential patents and single-firm exclusionary

³⁷ Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements. Available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.093.01.0017.01.ENG. New accompanying Guidelines on the application of Article 101 of the Treaty on the Functioning of the European Union to technology transfer agreements. Available at [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014XC0328\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014XC0328(01)).

³⁸ See, for supporting commentary and qualification, Anderson et al., above note 2 and, for related background, Robert D. Anderson, 'The Interface Between Competition Policy and Intellectual Property in the Context of the International Trading System,' 1 *Journal of International Economic Law* (1998), 655–78.

³⁹ See, for supporting commentary and qualification, Anderson et al., above note 2.

abuses of dominant position in network industries). Perhaps to a surprising degree, these trends were driven by learning processes in academia and/or in the enforcement agencies themselves. These developments are the focus of this section of the chapter.

To highlight up front the theme of this section, vital to the results achieved has indeed been a focus by the relevant enforcement agencies on particular behaviours and market contexts that threaten to diminish incentives for innovation, as opposed to the more generalized efforts to limit the role of intellectual property rights in the market economy that, in some cases, characterized earlier competition policy interventions and stances. In this way, enforcement authorities also avoided succumbing to excessive deference to the 'Schumpeterian' idea that a degree of market power or even an outright monopoly may be conducive to innovation. The key insight here is that well-constituted competition policies do not blindly oppose an appropriate degree of market concentration or even the emergence of dominant positions where this serves valid efficiency-related purposes or reflects superior business acumen.⁴⁰ Rather, competition policy interventions can be targeted precisely at market configurations and firm practices that are most likely to retard innovation, while leaving intact those that are unlikely to do so. As observed aptly by Jonathan Baker:

[...] antitrust is not a general-purpose competition intensifier. Rather, antitrust intervention can be focused on industry settings and categories of behavior where enforcement can promote innovation. The modern economic understanding about the relationship between competition and innovation goes beyond Schumpeter and Arrow by suggesting ways for antitrust rules and enforcement efforts to target types of industries and types of conduct. Through such selection, antitrust intervention can systematically promote innovation competition and pre-innovation product market competition, which will encourage innovation, without markedly increasing post-innovation product market competition, and, thus, without detracting from the pro-innovation benefits.⁴¹

As discussed below, competition law enforcement efforts vis-à-vis intellectual property rights reflect, to an important degree, just such an effort to target practices that impede or undermine incentives for innovation while acknowledging the role of practices and market configurations that are necessary for the efficient organization and operation of markets.⁴²

(1) An enhanced focus on mergers that potentially weaken the incentives for innovation and thereby impede economic progress

As already discussed, at the same time as the 1995 DOJ-FTC Guidelines were being developed, the maintenance of incentives for innovation also became a more central guiding principle for horizontal merger policy in the US and other jurisdictions. This was an important, lasting impact, inter alia, of the 1990s literature on innovation markets. The preservation of incentives for innovation was a core consideration, for example, in the assessment of pharmaceutical industry mergers that have been reviewed by the US competition agencies in

⁴⁰ In the US, this notion dates back at least to the 1945 opinion of Judge Learned Hand in *U.S. v. Aluminum Co. of America*, 148 F.2d 416 (2nd Cir. 1945).

⁴¹ Baker, above note 24.

⁴² An important example would be the role of patent pools and cross-licensing arrangements in overcoming the entry-detering effects of patent thickets.

recent times.⁴³ And, of course, this focus had a direct bearing on intellectual property, to the extent that the pace of innovation would be manifested by patenting activity.

The new focus had a measurable impact on US merger enforcement policy. As observed by one of the pioneers of this approach, Richard Gilbert, in 2006:

Merger enforcement statistics illustrate the increased importance of innovation concerns in antitrust policy. Until the mid-1990s, the DOJ and the FTC rarely mentioned innovation as a reason to challenge a merger. As shown in Table 1, from 1990 until 1994, the DOJ and the FTC alleged adverse impacts on innovation in only about 3% of all merger challenges. From 1995 to 1999, the agencies cited adverse innovation effects in 18% of merger challenges. The agencies' concerns about innovation effects continued to increase in the first part of the new century. From 2000 to 2003 the DOJ and FTC mentioned innovation effects as a reason to challenge the merger in 38% of merger challenges.⁴⁴

As a further, tangible connection to the world of intellectual property, in many of the relevant cases, the divestiture or mandatory licensing of IPRs constituted an important element of the remedies applied. This is not a particularly new development: in fact, compulsory licensing has been an important element of antitrust remedies in mergers and monopolization cases for decades.⁴⁵ Still, the enhanced focus on innovation generally has highlighted the importance of such remedies. A key related insight is that a simple transfer of patent rights may be insufficient to enable a competitor to become commercially viable, if related know-how is not also made available.⁴⁶

(2) New focuses of enforcement activity driven by improved understanding of/experience related to specific IPR-related practices

Beyond the increased focus on innovation-threatening mergers, the period since the issuance of the 1995 DOJ-FTC Guidelines witnessed an important further rebalancing toward specific firm practices associated with the use of IPRs that, for the most part, had not been a significant focus of enforcement activity in the past. As developed below, four such practices or sets of practices were: (i) anti-competitive patent settlement agreements; (ii) patent thickets and arrangements to facilitate their successful navigation; (iii) 'hold-ups' in the context of arrangements governing access to standard-essential patents; and (iv) single-firm exclusionary practices and other abuses of a dominant position in network industries.

⁴³ This is not to suggest that the agencies always made the right calls. See, generally, William S. Comanor and F.M. Scherer, 'Mergers and innovation in the pharmaceutical industry' (2013) 32.1 *Journal of Health Economics* 106-113.

⁴⁴ Richard Gilbert, 'Competition and Innovation' (2006) *Issues in Competition Law and Policy*. Available at http://works.bepress.com/richard_gilbert/12/.

⁴⁵ F.M. Scherer, *The economic effects of compulsory patent licensing* (New York University, Graduate School of Business Administration, Center for the Study of Financial Institutions, 1977); William E. Kovacic, 'Designing Antitrust Remedies for Dominant Firm Misconduct' (1999) 31.4 *Connecticut Law Review* 1285-1319, at 1304-05.

⁴⁶ Alberto Heimler, 'Competition law enforcement and intellectual property rights' (Helsinki: Multiprint Oy, 2008) *Competition Law Yearbook 2007*, pp. 35-57.

(a) *Anti-competitive settlements of patent infringement suits*

Since the year 2000, an important new focus of competition law enforcement activity in relation to intellectual property has concerned anti-competitive settlements in patent infringement cases that thwart entry by generic competitors. A key early research contribution underlying policy innovation in this area was Shapiro's pioneering work on patent settlements. That work highlighted that:

[...] the legal rules governing the resolution of [intellectual property] disputes are of first-order importance. This importance is not confined to high-tech industries, much less to the software and Internet sectors, but extends to all industries where intellectual property rights are significant. In a very real sense, the rules governing settlements affect what is truly meant by the patent grant itself. In fact, in many fast-moving industries, the rules governing patent litigation and settlements are arguably far more important to patentees than the single variable on which economists have traditionally focused, namely patent length.⁴⁷

A specific and highly influential context in which concern arose (first in the US) with respect to patent settlements involved the use of settlement agreements to deter entry by generic competitors in pharmaceutical markets. To an extent, the concern derived from incentives for generic entry – notably a 180 day statutory exclusivity period for the first generic entrant to enter a particular market – that were built into relevant US legislation, the 1984 Hatch-Waxman Act. As Majoras explains, under the US legislation:

By increasing the potential economic value of generic entry, the statute also increased the incentive for brand and generic manufacturers to conspire to share rather than compete for the expected profits generated by sales of both brand and generic drugs. For example, a brand manufacturer and generic pharmaceutical company now have an incentive to divide up the profits from the Hatch-Waxman 180-day generic exclusivity period -- a period that did not exist prior to the passage of the Act. In nearly any case in which generic entry is contemplated, the profit that the generic anticipates will be much less than the profit the brand-drug company would make from the same sales. Consequently, it will often be more profitable for the branded manufacturer to buy off generics.⁴⁸

Of course, 'buying off' potential generic competitors is likely to be strongly contrary to the interests of consumers – hence, the concern for competition agencies.

Carrying forward the concern expressed in Majoras' statement, the role of patent settlements in the pharmaceutical industry was the subject of a series of enforcement actions by the Federal Trade Commission in the first decade of the 21st century.⁴⁹ The policy concerns articulated by the Commission were, for the most part, validated by the majority opinion of the US Supreme Court in its 2013 opinion in the leading case of *Federal Trade Commission v. Actavis*,

⁴⁷ Carl Shapiro, 'Antitrust Limits to Patent Settlements' (2003) 34.2 *RAND Journal of Economics*. Pre-publication version available at <https://ssrn.com/abstract=406698>.

⁴⁸ Deborah Platt Majoras [then FTC Chairperson], *A Government Perspective on IP and Antitrust Law. Remarks to Conference on The IP Grab: The Struggle Between Intellectual Property Rights and Antitrust*, 21 June, 2006. Available at <http://www.ftc.gov/speeches/majoras/060621aai-ip.pdf>.

⁴⁹ An early case, in which the Commission's view did not prevail, was *Schering-Plough Corp. v. Fed. Trade Comm'n*, 402 F.3d 1056, 1072 (11th Cir. 2005).

Inc., et al., 133 S. Ct. 2223, notwithstanding that the Court declined to hold such agreements *per se* unlawful as the FTC had proposed.⁵⁰

While the specifics of the US Hatch-Waxman Act provided the context for early enforcement action in this area, the underlying concern has subsequently been adopted and carried forward by other leading competition agencies. For example, pharmaceutical patent settlement agreements are an important focus of both monitoring and enforcement activity in the European Union. In a first pay-for-delay case, the Commission imposed significant fines on a Danish pharmaceutical company, Lundbeck, and on several producers of generic medicines who agreed to delay the market entry of cheaper generic versions of Lundbeck's branded citalopram, a high-sales antidepressant.⁵¹ Similarly, pharmaceutical patent settlement agreements are noted as a specific area of concern in Canada's IPEGs. As well, competition law safeguards against anti-competitive settlement agreements appear relevant to measures being taken to facilitate effective responses to public health emergencies at the global level.⁵²

(b) *Navigating patent thickets, the role of standards, and 'hold-ups'*

Patent thickets are situations in which an overlapping set of patent rights requires firms seeking to commercialize new technology to obtain licenses from multiple patentees. Such situations are common today in industries such as semiconductors, computing and telecommunications, although they are by no means limited to those sectors. As Shapiro explains:

[...] thoughtful observers are increasingly expressing concerns that our patent (and copyright) system is in fact creating a *patent thicket*, a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology. With cumulative innovation and multiple blocking patents, stronger patent rights can have the perverse effect of stifling, not encouraging, innovation.⁵³

Patent pools and/or cross-licensing can be an efficient response to these phenomena in many cases. This is notwithstanding that they also raise potential competition law concerns.⁵⁴ A key insight, in this regard, is that pools or licensing arrangements combining complementary patents are generally efficiency-enhancing; whereas pools comprised of substitute patents can indeed create market power and are a legitimate focus of competition policy concern.⁵⁵ This important and useful rule, nonetheless, does not dispose of all related issues, in that particular patented technologies will often be both complements *and* potential substitutes.⁵⁶ This, in turn,

⁵⁰ See, for commentary, Robert D. Anderson and Anna C. Müller, 'Reverse patent settlement agreements in the pharmaceutical sector from a competition policy perspective: enforcement and regulatory issues', forthcoming in Anderson et al., above note 2, chapter 19.

⁵¹ See Pierre Arhel, 'Enforcement of Competition Law in relation to Intellectual Property in the European Union', forthcoming in Anderson et al., above note 2, chapter 13.

⁵² Anderson and Müller, above note 50.

⁵³ Carl Shapiro, 'Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting,' in Adam B. Jaffe, Josh Lerner and Scott Stern (eds.), *Innovation Policy and the Economy* (MIT Press, Vol. 1, 2001). Available at <http://www.nber.org/~confer/2000/ipess00/shapiro.pdf>.

⁵⁴ See, for a fuller treatment, Giovanni Napolitano, 'The Treatment of Patent Pools: Economic Underpinnings and the Evolution of Policy Approaches in the US and the EU', forthcoming in Anderson et al., above note 2, chapter 11.

⁵⁵ Shapiro, above note 53.

⁵⁶ Heimler, above note 46.

points toward the importance of correcting problems, where possible, at the level of the patent issuance process itself.⁵⁷

The impact of patent thickets is heightened by the risk of 'hold-ups' – that is, the danger that new products will inadvertently infringe on patents issued after the products were designed.⁵⁸ As explained by Kovacic:

Hold-up typically arises when a patentee asserts its patent after the accused infringer has sunk substantial costs into design, development, and commercialization without knowledge of the patent. The threat of an automatic injunction following expensive patent litigation increases the patentee's leverage in the licensing negotiations beyond the value of the patent's inventive contribution and leads to higher royalties. This dynamic can be especially problematic when the patented invention is only a small component of the infringing product.⁵⁹

A context in which hold-ups are likely to raise particular concerns is that of standard-setting organizations (SSOs). Such organizations provide a forum for the development of new standards through the sharing of information on pertinent inventions as they are developed. Their role is particularly important in industries where the need for standardization is recurring, for example, because there are many players and technology evolves rapidly.⁶⁰ However, once a standard is adopted and related investments have been made, firms implementing the standard may find switching technologies to be costly, creating a situation potentially facilitating the exercise of market power. As Renata Hesse, then US Deputy Assistant Attorney General for Antitrust, explains:

Because implementing the standard necessitates reading on the standard's incorporated patents, those patents become standards essential patents or SEPs for short. Standards essential patent holders may seek to take advantage of the market power that standardization of their patented technology creates by engaging in hold-up. They may, for instance, exclude a competitor from a market or obtain an unjustifiably higher royalty than would have been possible *ex ante*; that is, before the standard was set. This type of hold-up raises particular competition concerns when alternative technologies that could have been included in the standard were instead excluded from it.⁶¹

Not all observers agree on the extent of the threat posed by hold-ups in relation to standard setting organizations. Indeed, some argue that 'hold-out' - infringement of the SEPs themselves - is a greater problem.⁶² While further experience and evaluation may indeed be needed with

⁵⁷ See related discussion, below.

⁵⁸ Majoras, above note 48.

⁵⁹ William E. Kovacic, 'Remark: Intellectual Property Policy and Competition Policy' (2011) 66.3 *New York University Annual Survey of American Law* 421-434.

⁶⁰ See Willard K. Tom and J. Clayton Everett, Jr., 'Competition policy, intellectual property and network industries: post-1995 enforcement experience in the US and EU', forthcoming in Anderson et al., above note 2, chapter 12. See also Xiaoping Wu, 'Interplay between Patents and Standards in the Information and Communication Technology (ICT) Sector and its Relevance to the Implementation of the WTO Agreements' (WTO Working Paper ERSD-2017-08, 7 April 2017), available here: https://www.wto.org/english/res_e/reser_e/ersd201708_e.pdf.

⁶¹ Renata B. Hesse, 'IP, Antitrust and Looking Back on the Last Four Years' (Remarks to the Global Competition Review 2nd Annual Antitrust Law Leaders Forum, 8 February, 2013).

⁶² See Tom and Everett, above note 60 and, more generally, Douglas H. Ginsburg, Taylor M. Owings, and Joshua D. Wright, 'Enjoining Injunctions: The Case Against Antitrust Liability for Standard Essential Patent Holders Who Seek Injunctions' (October 2014) *The Antitrust Source* at 4, available at <http://ssrn.com/abstract=2515949>; and Maureen K. Ohlhausen, 'The Elusive Role of Competition in the Standard-Setting Antitrust Debate' (2017) 20 *Stanford Technology Law Review* 93-142.

respect to the relative magnitude of these concerns, the importance of these issues as a focus for reflection and analysis is not in doubt.

(c) *Single-firm exclusionary conduct in network industries more generally*

The concerns articulated relate particularly to the role of intellectual property in network industries. Such industries include telecommunications, computer hardware and software, and many other industries that are building blocks of the new, information-based economy. These industries often require common access to unique facilities, and are prone to the possibility of 'tipping' or 'locking into' inefficient standards.⁶³ As a result, the risk of undue exercise of market power through anti-competitive licensing and other practices is particularly high in these industries.

In the light of these concerns, some authors have suggested that assets protected by intellectual property which are critical to accessing a network should be capable of being treated as 'essential facilities' under competition law⁶⁴ and, therefore, subject to mandatory rights of access in circumstances where a refusal to license meets the general requirements of the essential facilities doctrine.⁶⁵ This position is controversial, however, in that, in the US and some other jurisdictions, the right to refuse to license is generally viewed as being intrinsic to the grant at least of a patent, if not to other types of intellectual property. A specific related concern is that excessive scope for invocation of the essential facilities doctrine as a tool for accessing specific technologies could erode commercial incentives for development of alternative technologies.⁶⁶

The bundling of technology-embodied products, or of technologies themselves – in which the sale of one product (or the licensing of a particular technology) is conditioned on the purchase of another – has been a recurring concern in multiple jurisdictions. In its famous *Microsoft* case initiated in 1998, the US Department of Justice alleged that Microsoft, by bundling access to the Windows operating system with Internet Explorer, was excluding Netscape and other potential entrants from the browser market and was extending its monopoly in personal computer operating systems into internet browsing software. The case was concluded in 2001 with a settlement between the Department and Microsoft which, inter alia, imposed on Microsoft a requirement to

⁶³ See Michael L. Katz and Carl Shapiro, 'Systems competition and network effects' (1994) 8.2 *The Journal of Economic Perspectives* 93-115. Available at <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.8.2.93>.

⁶⁴ See, e.g., Jeffrey Church and Roger Ware, 'Network Industries, Intellectual Property Rights and Competition Policy', in Robert D. Anderson and Nancy T. Gallini (eds.), *Competition Policy and Intellectual Property Rights In the Knowledge-Based Economy* (University of Calgary press, 1998), pp. 227, 230-39.

⁶⁵ As set forth in the leading case of *MCI Communications Corp. v. AT&T*, 708 F.2d (7th Cir. 1983), cert. denied 464 U.S. 891 (1983), application of the essential facility doctrine requires proof of four elements: (a) control by a monopolist of a facility or resource serving the monopolist's market, (b) the inability of an entrant to practically or reasonably duplicate the facility, (c) the denial of the use of the facility to a competitor or entrant, and (d) the feasibility of providing access to entrants.

⁶⁶ See, for related discussion, Herbert Hovenkamp et al., 'Unilateral Refusals to License in the US' and John Temple Lang, 'The Application of the Essential Facility Doctrine to Intellectual Property Rights Under European Competition Law', in Francois Leveque and Howard Shelanski (eds.), *Antitrust, Patents and Copyrights* (Edward Elgar Publishing, 2005).

provide software developers with the interfaces needed to inter-operate with the Windows system – thereby enabling them (potentially) to compete effectively with Microsoft.⁶⁷

Subsequently, competition authorities in a number of other jurisdictions initiated cases against Microsoft built on broadly similar concerns. For example, bundling of the Windows operating systems with the 'Media Player' function was deemed abusive in a 2004 EU case. In that case, the European Commission determined that Windows was dominant in the tying market of operating systems and that there were no economies flowing from integration with the tied media player market because 'distribution costs in software licensing are insignificant [and] a copy of a software programme can be duplicated and distributed at no substantial effort.' On the other hand, the Commission argued, 'the importance of consumer choice and innovation regarding applications such as media players is high'.⁶⁸

Apart from the issue of bundling, other practices of Microsoft have also been attacked. As described by Arhel, the firm was prosecuted for deliberately restricting interoperability between Windows PCs and non-Microsoft work group servers. To address this concern, the Commission ordered Microsoft to disclose information which would allow non-Microsoft work group servers to interoperate with Windows PCs and servers. This finding was subsequently confirmed by the Court of First Instance. At trial, Microsoft relied on the fact that the technology concerned was covered by IPRs. It argued that, if it were required to grant third parties access to that technology, this would weaken incentives for further innovation. However, the Court ruled that 'the fact that the communication of protocols covered by the Commission's decision, or the specifications for those protocols, are covered by IPRs cannot constitute objective justification within the meaning of [the two leading precedents of] *Magill* and *IMS Health*.'⁶⁹

In an important further example of the European Commission's readiness to intervene with respect to perceived single-firm abuses of a dominant position in network industries, in June 2017, the Commission fined the Google Corporation €2.42 billion for breaching EU antitrust rules. The basis of the decision was the Commission's view that 'Google abused its market dominance as a search engine by promoting its own comparison shopping service in its search results, and demoting those of competitors [...]. It [thereby] denied other companies the chance to compete on the merits and to innovate. And most importantly, it denied European consumers a genuine choice of services and the full benefits of innovation'.⁷⁰ Initial commentary on the decision has emphasized how difficult it would be to bring a similar case in the US, given prevailing differences of competition law doctrine and evidentiary standards. As noted in an early media account:

⁶⁷ Robert D. Anderson and Alberto Heimler, 'Abuse of Dominant Position – Enforcement Issues and Approaches for Developing Countries', in V. Dhall (ed.), *Competition Law Today* (New Delhi: Oxford University Press, 2007). See also Heimler, above note 46.

⁶⁸ Anderson and Heimler, above note 67.

⁶⁹ See, for a more detailed treatment, Arhel, above note 51.

⁷⁰ See European Commission - Press release, *Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service*, Brussels, 27 June 2017. Available here: http://europa.eu/rapid/press-release_IP-17-1784_en.htm. Detailed reasons for the decision have still to be released.

Pursuing a U.S. case against Google would be more complicated than in Europe, antitrust experts said, because of a higher standard of evidence needed to prove wrongdoing by the search giant. Rather than go to court, the FTC closed a similar investigation against Google in 2013 in exchange for Google's changing some of its business practices.⁷¹

To summarize, in the foregoing and other recent decisions in the area of abuse of a dominant position in network industries (often also implicating IPRs), the European Union has clearly gone beyond the enforcement approaches and degree of activism that is manifested in this area in the US. The reasons for this would appear to lie in both differing judicial precedents and competition policy philosophies. According to Kovacic:

The European Union has not encountered the limitations faced by the U.S. antitrust agencies in using its law enforcement powers to address claims of exclusion involving intellectual property. EU doctrine governing abuse of dominance sets more stringent limits upon companies than prevailing judicial interpretations of the Sherman, Clayton, and FTC Acts. In *Microsoft* and *Intel*, the European Commission obtained remedies notably more substantial than DOJ or the FTC attained in their cases, respectively. In *Google*, the European Commission seems poised to gain concessions related to search practices that emerged from the FTC's inquiry unscathed.⁷²

IV. The increasing focus on competition advocacy in diverse jurisdictions, and the underlying insights and policy concerns

Recent experience also underlines the importance of advocacy activities by competition agencies aimed at ensuring that patents and other forms of intellectual property rights are not awarded unnecessarily or cast in overly broad terms.⁷³ As explained by Kovacic:

One of the most important contributions of a competition policy system is to serve as an advocate within the government, and the country at large, for reliance on pro-competition policies. This is true, for instance, when the root of an observed competition policy problem resides in other government regulatory programs that distort the competitive process. In that case, the competition agency's aim should be to identify first-best solutions, which may involve reforms to the other regulatory regimes.⁷⁴

The importance of targeted competition advocacy activities is, perhaps, particularly salient in the area of intellectual property. As Kovacic also observes, '[...] problems [...] observed in the competition policy realm [often] have their roots in the intellectual property rights-granting process. First-best solutions to competition problems would consist of improvements in the rights granting process. The prosecution of antitrust cases—for example, the application of

⁷¹ *E.U. fines Google a record \$2.7 billion in antitrust case over search results*, Washington Post, 27 June 2017. Available here: https://www.washingtonpost.com/world/eu-announces-record-27-billion-antitrust-fine-on-google-over-search-results/2017/06/27/1f7c475e-5b20-11e7-8e2f-ef443171f6bd_story.html?utm_term=.f9322df28277.

⁷² William E. Kovacic, 'From Microsoft to Google: Intellectual Property, High Technology, and the Reorientation of U.S. Competition Policy and Practice' (2013) 23 *Fordham Intell. Prop. Media & Ent. L.J.* 645. Available at <http://ir.lawnet.fordham.edu/iplj/vol23/iss2/9>.

⁷³ Majoras, above note 48; see also William E. Kovacic, 'The Future of US Competition Policy' (September, 2004) *The Antitrust Source*. Available at https://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Sep04FullSource.authcheckdam.pdf. Such activities can include public education activities, studies and research undertaken to document the need for market-opening measures, formal appearances before legislative committees or other government bodies in public proceedings, or behind-the-scenes lobbying within government.

⁷⁴ Kovacic, above note 6.

monopolization concepts to expand access to IP rights—may be a crude, second-best solution to cure weaknesses that reside in the rights granting process'.⁷⁵

To be sure, the importance of competition agency advocacy and research activities bearing on intellectual property issues is not new. In Canada, the Competition Bureau and its predecessor agencies have long sought to exercise influence on the substance and content of IP policy, precisely as a means of addressing competition problems 'at their root'. Prominent examples include substantive, research-based interventions before public inquiries into matters including the operations of copyright collectives and the terms of patent protection in the pharmaceutical industry.⁷⁶ In addition, the Bureau has sponsored two significant scholarly volumes addressing the competition policy-intellectual property interface more generally.⁷⁷

An obvious concern animating competition advocacy and related research concerning IPRs is the expansion of patentable subject matter that has occurred in many jurisdictions, over time. In the US, beginning in 1980, a series of decisions of the Supreme Court and the Federal Circuit Court of Appeals added genetically engineered bacteria, software and business methods to the set of inventions that are considered to be patentable.⁷⁸ As a consequence, Lemley and Shapiro argue that inventors can potentially be expected to file patent applications even in areas that are not currently eligible for protection, simply as a way of 'hedging their bets'.⁷⁹

An important and highly pertinent example of a competition policy advocacy activity in the specific area of intellectual property is the 2003 report of the US Federal Trade Commission entitled *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*.⁸⁰ This report provides a penetrating discussion of the harmful effects on competition that can flow from the awarding of unjustified patents (or patents that are cast in overly broad terms), and puts forward a range of proposals to address these problems.

The FTC Report references, and was heavily influenced by, the post-1995 academic literature e.g. on patent thickets; on tools for navigating such thickets (i.e., patent pools and licensing); on standards and hold-ups; on anti-competitive settlements in the pharmaceutical sector; and on other matters. With respect to all these matters, it documented and elucidated the interdependency of intellectual property and competition law and policy. Summarizing a key theme of the Report, Kovacic observes as follows:

⁷⁵ Kovacic, above note 9.

⁷⁶ See, for pertinent details, Anderson, Khosla and Ronayne, above note 6, and references cited therein.

⁷⁷ See Anderson and Gallini, eds., above note 64, and Marcel Boyer, Michael Trebilcock and David Vaver, (eds.), *Competition Policy and Intellectual Property* (Irwin Law, 2009).

⁷⁸ See, for pertinent details, Nancy T. Gallini, 'The Economics of Patents: Lessons from Recent U.S. Patent Reform' (2002) 16(2) *Journal of Economic Perspectives* at 131–154.

⁷⁹ Lemley and Shapiro, above note 32.

⁸⁰ US Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, October 2003. Available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>. On the development of the *To Promote Innovation* report and other modern FTC advocacy projects concerning the rights-granting process, see Timothy J. Muris, *Bipartisan Patent Reform and Competition Policy* (American Enterprise Institute, May 2017). Available at www.aei.org/wp-content/uploads/2017/05/Bipartisan-Patent-Reform-and-Competition-Policy.pdf.

To optimally foster innovation, patent and competition policy must work together. Errors or systematic biases in how one policy's rules are interpreted and applied disrupt the other policy's effectiveness. It is important to note that the FTC Report confirms that patents play an important role in promoting innovation. Nonetheless, it also raises concerns about the ability of those patents of questionable quality—those that are invalid or overly broad—to distort competition and harm innovation in several ways.⁸¹

To address these concerns, the Report put forward specific recommendations relating to diverse aspects of the US competition policy system. These included:

- Recommendations to minimize the issuance of questionable patents, notably through strengthening of the statutory requirement of non-obviousness;
- Recommendations to facilitate the elimination of questionable patents once they have been issued, for example through the creation of new administrative procedures for post-grant review and opposition;
- Recommendations to bolster the disclosure function of patents. Specifically, the Report recommended that Congress enact legislation to require publication of all patent applications eighteen months after filing; and
- Recommendations to strengthen the role of economics in intellectual property policy making generally.

The above-summarized recommendations have had an important impact on policy-making in the intellectual property area, as manifested both by legislative proposals in Congress and by the Report's citation in a series of subsequent Supreme Court opinions.⁸²

More recently, in 2016, the FTC completed a further significant report implicating the interface of intellectual property and competition policy, this time on the subject of patent assertion entities (PAEs), colloquially known as 'patent trolls'. As defined in the Report, these

are businesses that acquire patents from third parties and seek to generate revenue by asserting them against alleged infringers. PAEs monetize their patents primarily through licensing negotiations with alleged infringers, infringement litigation, or both. In other words, PAEs do not rely on producing, manufacturing, or selling goods. When negotiating, a PAE's objective is to enter into a royalty-bearing or lump-sum license. When litigating, to generate any revenue, a PAE must either settle with the defendant or ultimately prevail in litigation and obtain relief from the court.⁸³

In terms of its substantive findings, the Report emphasizes that infringement litigation plays a legitimate role in protecting patent rights. It finds, nonetheless, that 'Nuisance infringement litigation, however, can tax judicial resources and divert attention away from productive business behavior.' To strike the right balance, the Report proposes reforms to: 1) address discovery burden and cost asymmetries in PAE litigation; 2) provide courts and defendants with more information about the entities that file infringement suits; 3) streamline overlapping cases brought against defendants on the same theories of infringement; and 4) provide adequate notice to defendants of such infringement theories.⁸⁴

⁸¹ Kovacic, above note 6.

⁸² Kovacic, above note 6, and references cited therein.

⁸³ US Federal Trade Commission, above note 5.

⁸⁴ US Federal Trade Commission, above note 5.

An important focus on competition advocacy activities relating to intellectual property has also been evident at the US Department of Justice. As outlined by Hesse:

[...] the intersection between intellectual property rights and antitrust law has been an important priority for the Division's competition advocacy program. [Three specific intellectual property-related topics on which the Division has focused are]: standards-essential patents, patent assertion entities, and prospective antitrust guidance regarding intellectual property through guidelines and business reviews. Our competition advocacy on IP topics has resulted in vigorous dialogue, improved rules and regulations, and more competitive outcomes in key IP-driven industries.⁸⁵

The EU Commission has been similarly active in research-based competition advocacy work relating to IPRs, particularly in the context of the pharmaceutical sector. A major report completed in 2009 identified settlement agreements as being among the causes of a noticeable decline in the number of novel medicines. Still, the Commission highlighted that 'any assessment of whether a certain settlement could be deemed compatible or incompatible with EC competition law would require an in-depth analysis of the individual agreement, taking into account the factual, economic and legal background'.⁸⁶ According to Arhel, the inquiry report has already produced positive effects: a monitoring process initiated by the Commission in 2010 showed that the number of potentially problematic patent settlements in the pharmaceutical sector fell to 10% of total patent settlements in the sector in the period July 2008 to December 2009, compared to 22% in the period covered in the preceding year's inquiry. Subsequently, the number of problematic patent settlements was confirmed to have stabilized at that low level.⁸⁷

The impact of the foregoing advocacy activities has, we suggest, not at all been limited to the jurisdictions in which they have been carried out. Rather, these efforts have resonated and influenced the evolution of policies around the world. To cite possibly the most obvious example, concern over the impact of anti-competitive patent settlements in the pharmaceutical industry – initially developed in the academic work of Carl Shapiro and then in the 2003 FTC Study – has become a focus of competition law enforcement, advocacy activity and or competition policy enforcement guidelines in jurisdictions around the world.⁸⁸ Likewise, concern over hold-ups in relation to standard-essential patents has been taken up in diverse jurisdictions. This is, we suggest, a clear testament to the power of ideas in the increasingly inter-connected competition policy world of the twenty-first century.

⁸⁵ Renata Hesse, *The Art of Persuasion: Competition Advocacy at the Intersection of Antitrust and Intellectual Property*, 8 November 2013. Available at <https://www.justice.gov/atr/file/518356/download>.

⁸⁶ European Commission, *Pharmaceutical Sector Inquiry: Final report*, 8 July 2009, para 1030. Available at http://ec.europa.eu/competition/sectors/pharmaceuticals/inquiry/staff_working_paper_part1.pdf.

⁸⁷ See Arhel, above note 51.

⁸⁸ Anderson et al., above note 2; and Muris, above note 80.

V. Concluding remarks

This chapter has attempted to sketch the main contours of the evolution in competition policy thinking that has, we believe, driven policy changes and applications in this area in the past several decades, across multiple jurisdictions. We began with the breakthroughs in understanding that underpinned the early evolution of competition policy approaches toward intellectual property licensing arrangements in the US, Canada and the EU. These have, we suggest, been important not only for the evolution of policy stances toward licensing arrangements in other jurisdictions but also for the treatment of intellectual property rights in those jurisdictions more generally.

Subsequently, the chapter has examined the foundational insights that have animated competition policy interventions with respect to 'newer' issues such as anti-competitive patent settlements and hold-ups in relation to standard setting processes in addition to the modern focus on mergers that potentially lessen incentives for innovation and on abuse of dominance/single firm exclusionary practices in IP-intensive network industries. The key here, we have suggested, has been a focus on specific behaviours and contexts associated with intellectual property rights that are likely to have anti-competitive consequences (as opposed to the more generalized scepticism of the role of IP rights that sometimes motivated competition law interventions in the past). Consideration has also been given to the core policy concerns and insights driving the increased emphasis that leading competition authorities now devote to policy advocacy and research in relation to the scope and definition of IP rights.

As we have pointed out, the focus on specific behaviours and advocacy work has enabled competition agencies to give due attention and weight to the 'Schumpeterian' dimension of competition in which, through a process of 'creative destruction', inferior products and processes are continually replaced by superior ones, and the legitimate role of intellectual property in propelling this process. At the same time, and importantly, competition policy analysis and enforcement measures have largely avoided being trapped in an excessively narrow and deferential application of Schumpeterian thinking that would unnecessarily privilege market power or inhibit proactive enforcement actions by competition agencies where they are, in fact, warranted.

The evolution of thinking set out in this chapter carries, in any case, major implications for the core concerns and premises of the broader volume of which it will form a part. It suggests, firstly, that competition policy applications in the intellectual property sphere are matters of fundamental importance for economic advancement and prosperity, having a direct bearing on innovation and the diffusion of new technologies. Indeed, the role of IP and related applications of competition policy are now sufficiently intertwined and interdependent that neither can be well understood or applied in an optimal fashion in the absence of the other. Secondly, the thought evolution that we describe implies that successful policy applications require careful study of market structure and behaviour, not in the abstract but with reference to the particular markets affected. And thirdly, it augurs favourably for the prospects of continuing gradual and incremental

convergence in national approaches in this area, even spanning developed and developing countries, on the basis of continual learning and informed self-interest.