Standard Settings, Patent Disputes and Licensing

-Antitrust Intervention

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The interface between competition policy and intellectual property rights (IPR) is essential to the economic dynamics of both developing and industrialized countries, which seek to promote innovation, technology transfer, as well as opportunities in open markets for competitive firms that produce affordable and high-quality goods for consumers. Courts and Competition authorities have recognized that both bodies of law are complementary policies aiming at the achievement of the same objectives.[1]

Both legal frameworks encourage market players to offer new products and services to consumers. By preventing the unauthorized use of protected innovations, IP encourages competition by substitution and thus stimulate effective competition.[2] At the same time, by requiring disclosure and publication, IP stimulate the dissemination of knowledge, facilitate the development of further inventions, and encourage their commercialization. On the other hand, competition law aims at keeping the market competitive. Competition among companies stimulated them to perform at their best, by offering consumers, new, innovative products, and adopting more efficient production processes.[3]

1.1 Standards Essential Patents

These innovative products and processes may be included in standards. Standards are defined as "documents that define technical or quality requirements with which current or future products, production processes, services or methods may comply"[4] A standard may rely on a patented technology because the technology provides a unique solution for a specific function. It is also possible that alternative solutions existed, but that a patented technology was selected and implemented in the standard because it was considered the optimal way to perform a specific function, regarding quality or cost efficiency.[5] A patent that controls any part of the technology used in a

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[1] See European Commission, Guidelines on the Applicability of Article 81 of the EC Treaty to Horizontal Cooperation Agreements 2001 O.J. (C 3/2) (2001); See Fed. Trade Comm'n, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy (2003).

[2] STEVEN D. ANDERMAN & HEDVIG SCHMIDT, EU COMPETITION LAW AND INTELLECTUAL PROPERTY RIGHTS: THE REGULATION OF INNOVATION 11 (2 ed. 2011).

[3] Fed. Trade Comm'n, note 1.

[4] European Commission, COMMISSION COMMUNICATION - A STRATEGIC VISION FOR EUROPEAN STANDARDS: MOVING FORWARD TO ENHANCE AND ACCELERATE THE SUSTAINABLE GROWTH OF THE EUROPEAN ECONOMY BY 2020 COM (2011) 311 FINAL 1.1 (2011).

[5] Urska Petrovcic, 58 Competition Law and Standard Essential Patents. A Transatlantic Perspective 28 (Alastair Sutton ed., 1st ed. 2014).

standard is called a Standard-Essential Patent (SEP).[6] A patent is considered "standard essential" when its owner declares the patent as part of a standard-setting process or otherwise consents to its incorporation by an SSO into an industry standard. Once a patent is deemed a SEP, implementers (manufacturers or competitors who want to use the patent) will need a license to practice the patent for any of their products that meet the industry standard.[7]

1.2 Standardization Process and Opportunism

The tension between standards and patents arises because patents protect the owner's exclusionary right to exploit an innovation, while standards are intended for widespread use in the market.[8] On the one hand, a reasonable return on research and development (R&D) investment by the patent holder is necessary to incentivize innovation; on the other, it is desirable to ensure that third parties can access patented technology to encourage standards adoption and to spur further innovation.[9] Also, competition should be preserved at all levels of the supply chain.

Standards developed through a consensus process deliver substantial consumer benefits by allowing components produced by many suppliers to work together, encouraging investment and competition

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[6] Jeffrey I.D. Lewis, WHAT IS FRAND ALL ABOUT? THE LICENSING OF PATENTS ESSENTIAL TO AN ACCEPTED STANDARD BRINGING LAW TO LIFE (CARDOZO LAW) (2014), http://www.cardozo.yu.edu/what-"frand"-all-about-licensing-patents-essential-accepted-standard (last visited May 1, 2017); European Telecommunications Standards Institute (ETSI), EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE (ETSI) RULES OF PROCEDURE (ANNEX 6) 15 (6) (2014), http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf (last visited May 18, 2016) ("Essential" as applied to IPR means that it is not possible on technical [but not commercial] grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate equipment or methods which comply with a standard without infringing that IPR. For the avoidance of doubt in exceptional cases where a standard can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered essential.); Institute of Electrical and Electronics Engineers (IEEE), IEEE STANDARD BOARD BYLAWS (POLICIES AND PROCEDURES) § 6.1 (2015), https://standards.ieee.org/develop/policies/bylaws/ (last visited May 18, 2016).

[7] Maureen K. Ohlhausen, A PRAGMATIST'S APPROACH TO NAVIGATING THE INTERSECTION OF IP AND ANTITRUST 9 (2013), https://www.ftc.gov/public-statements/2013/12/pragmatists-approach-navigating-intersection-ip-antitrust (last visited May 13, 2016); OECD COMPETITION COMMITTEE (BR), COMPETITION, INTELLECTUAL PROPERTY AND STANDARD SETTING (BACKGROUND NOTE) 10 (2014), http://www.oecd.org/daf/competition/competition-intellectual-property-standard-setting.htm (last visited Oct 12, 2015) [Due to complexity, time and cost considerations, there is no independent verification of whether a patent or patent pending is, in fact, essential (in other words, that the declaration of essentiality is accurate). On the one hand, repeated interaction between patent owners encourages accurate SEP declarations. On the other hand, SSO typically encourage declarations to be made as early as possible in the process so that members can make better informed decisions and consider possible alternative technologies, if necessary. The result is that the standard or patent application may evolve in the period after having been declared as essential, so that it is not actually essential when the standard is adopted. Also, patent holders may risk being accused of patent ambush and risk antitrust scrutiny if they are seen as concealing their essential patents, which may further militate in favor of over-declaration rather than under-declaration.].

[8] See e.g. OECD COMPETITION LAW & POLICY, POLICY ROUNDTABLE ON COMPETITION, PATENTS AND INNOVATION I 371 (2008), https://www.oecd.org/daf/competition/39888509.pdf (last visited Oct 12, 2015); Katharine Rockett, *Chapter 7: Property Rights and Invention*, 1 *in* HANDBOOK OF THE ECONOMICS OF INNOVATION 315 (Nathan Rosenberg & Bronwyn H. Hall eds., 2010).

[9] OECD Competition Committee (BR), note 7 at 2.

in standard-compliant products.[10]

Standards might nevertheless have also negative effects on the market. Standard could provide the setting for anti-competitive practices. Specifically, unilateral conducts by SEP holders might open the door for opportunism. Concerns focus on two practices: patent ambush and strategic licensing conducts.

A patent ambush occurs when the patent holder participates in the standardization procedure and intentionally conceals the existence of a patent that covers technology that might be relevant to the discussed standard.[11] Only after the SSO implements the patented technology and manufacturers start producing in compliance with the standard, the SEP owner reveals the existence of its patents. A patent ambush occurs ex-ante, that is, during the standardization process and harms competition between rival's technologies based on the SEP holder deceptive conduct by misinforming the standard organizations and its rivals.[12]

On the other side strategic licensing arises ex-post or after the implementation of the technology in the standard, as the use of the SEP becomes mandatory for producers of standard-compliant goods.[13] Patent hold-up occurs when a SEP holder had made a commitment to license on FRAND terms but then refuses to license its patents, impose onerous licensing conditions or seeks to use standard-lock-in to obtain an unjustifiably higher royalty than would have been possible before the

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[10] VALERIO TORTI, INTELLECTUAL PROPERTY RIGHTS AND COMPETITION IN STANDARD SETTING: OBJECTIVES AND TENSIONS 1 (1 ed. 2015); Lisa Kimmel, *Standards, Patent Policies and Antitrust: A Critique of IEEE II*, 29 ANTITRUST MAGAZINE, 2015, at 18, https://www.crowell.com/Practices/Antitrust/articles/Standards-Patent-Policies-and-Antitrust-A-Critique-of-IEEE-II-Antitrust-Magazine (last visited May 18, 2016); See JAPAN FAIR TRADE COMMISSION (JFTC), JFTC GUIDELINES ON STANDARDIZATION AND PATENT POOL ARRANGEMENTS (JAPAN) 24 (2005), http://www.jftc.go.jp/en/legislation_gls/imonopoly_guidelines.files/Patent_Pool.pdf; OECD COMPETITION COMMITTEE, STANDARD SETTINGS (2011), http://www.oecd.org/daf/competition/47381304.pdf (last visited Oct 12, 2015) (Describes the main source of standards, i.e uncoordinated processes, industry collaboration and government standard setting.); U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION (2007) (For instance, consumers may delay their purchases until the end of the standards war. This is because consumers want to buy the product that incorporates the wining standard, instead of having to switch away from a losing standard and incur additional costs. From the companies' point of view, a war involves significant costs. For example, a firm will try to establish a large customer base so that its product to become the dominant standard.).

[11] See e.g. Damien Geradin & Miguel Rato, *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND*, 3 EUR. COMPET. J. 101 (2007), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=946792 (last visited May 18, 2016) (Patent ambush occurs where an IPR owner willfully and knowingly fails to meet its duty to disclose to a SSO ownership of IPR which subsequently incorporated in the standard under adoption); OECD COMPETITION LAW & POLICY, POLICY ROUNDTABLE ON COMPETITION, PATENTS AND INNOVATION II 257 9 (2010), http://www.oecd.org/daf/competition/45019987.pdf (last visited Oct 12, 2015).

[12] Petrovcic, note 5 at 5; See also OECD Competition Law & Policy, note 11 at 9.

[13] Barry E. Hawk, Article 82 and Section 2: Abuse and Monopolizing Conduct, 2 in Issues In Competition Law and Policy 871, 873 (Wayne Dale Collins & Joseph Angland eds., 1 ed. 2008) (An exploitative abuse has been defined as conduct that makes "use of the opportunities arising out of [a company's] dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition); See Case 27/76, United Brands Co. & United Brands Cont'l v. Comm'n (United Brands), 1978 E.C.R. 207 (1978); See Richard A. Posner, Antitrust Law 193 (2nd ed. 2001).

patent(s) were included in the standard.[14] This conduct effectively forecloses the manufacturer's access to the standard.

1.3 Fair, Reasonable and Non-Discriminatory Licensing (FRAND)

To avoid this situation, SEP holders and SSO establish Fair, Reasonable and Non-Discriminatory (FRAND) licensing commitments. A FRAND commitment is a promise by a patentee to avoid opportunistic exploitation of their SEP, specifically to prevent exploiting the added market power gained as a result of its patents being included in a standard. This pledge seeks to give industry participants access to critical IP rights on terms that enable them to compete efficiently and advance consumer welfare.[15]

A FRAND-encumbered SEP is a patent included in a standard and restricted by the promise of licensing such patent on fair, reasonable and nondiscriminatory terms, as soon as the prospective licensee complies with the requirements of the respective standard-setting organization (SSO).[16]

1.4 Antitrust Intervention

As exposed, perhaps the most fundamental question that arises at the intersection of intellectual property law and antitrust law is whether the exercise of rights granted by the former can result in the imposition of liability under the latter. Nowadays, this issue manifests itself especially in the context of standard-essential patents (SEPs) and raises further questions concerning the terms under which a SEP holder must license its technology. For example, whether a SEP holder seeking an injunction to stop a licensee from using its patent amounts to an antitrust violation; and to what extent antitrust law – as opposed to contract law or other market factors – is the proper tool to regulate SEP disputes.[17]

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[14] eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006) (When the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest.); See also Koren Wong-Ervin & Anne Layne-Farrar, Methodologies For Calculating FRAND Damages, Law 360, 2014, http://www.law360.com/articles/584917/methodologies-for-calculating-frand-damages-part-3 (last visited Feb 11, 2015); Thomas Cotter, Reflections on Holdup and Royalty Stacking, Part 1 Comparative Patent Remedies (2014), http://comparativepatentremedies.blogspot.jp/2014/06/reflections-on-holdup-and-royalty.html (last visited Oct 12, 2015).

[15] See Alden Abbott, FRAND PRINCIPLES AND COMPETITION (2013), http://scholarlycommons.law.northwestern.edu/njtip_symposium/SCHEDULE/Schedule_2013/4/ (last visited May 13, 2016) (FRAND means fair, reasonable and nondiscriminatory terms. Also known as RAND or reasonable and nondiscriminatory terms. The courts and the doctrine use both terms RAND and FRAND indistinctively.).

[16] A standards organization, standards body, standards developing organization (SDO), or standards setting organization (SSO) is any organization whose primary activities are developing, coordinating, promulgating, revising, amending, reissuing, interpreting, or otherwise producing technical standards that are intended to address the needs of some relatively wide base of affected adopters. Most standards are voluntary in the sense that they are offered for adoption without being mandated in law. Some standards become mandatory when regulators as legal requirements in particular domains adopt them.

[17] JONATHAN GLEKLEN & YASMINE HARIK, INTELLECTUAL PROPERTY RIGHTS AND ANTITRUST LIABILITY IN THE U.S.: THE 2016 LANDSCAPE

These questions necessarily contemplate the relative scope of intellectual property and antitrust laws, the fundamental rights of property and access to courts, and from a policy perspective, how best to balance the short and long-term consumer welfare trade-offs between favoring one set of laws over the other.[18]

1.4.1 Importance of Consumer Welfare

There is an intense debate regarding the role that competition law play (or should play) in addressing the SEP owners' opportunistic conducts. Some commentators have recognized that doctrines developed in the field of the patent or contract law might be applied in dealing with the SEP owner's opportunistic conduct.[19]

However several authors emphasize that while patent and contract law remedies might be tailored to address the interest of individual licenses, they do not protect the consumer from the broader implications that a SEP owner's opportunistic behavior have on the market.[20] They maintain that the SEP owner's opportunism harms consumers directly (if higher royalties are passed on them in the form of higher prices) and indirectly (if the SEP owner's opportunism undermines the confidence in standards and the standardization process).[21] These authors argue that there are strong policy reasons for addressing the SEP owner's opportunistic conduct thru the provisions of competition law.[22]

(2016), http://www.arnoldporter.com/~/media/files/perspectives/publications/2016/06/intellectual-property-rights-and-antitrust-liability-in-the-us.pdf (last visited Oct 12, 2016).

[18] See Ohlhausen, note 7.

[19] See e.g. Apple, Inc. v. Motorola, Inc.(N.D. Ill) I, 869 F Supp 901 (2012); Microsoft Corp. v. Motorola, Inc. (9th Cir.), 795 F.3d 1024 (2015); See Case 2013 (Ne) 10043 (Japan), (2014); Douglas H. Ginsburg, Taylor M. Owings & Joshua D. Wright, *Enjoining Injunctions: The Case Against Antitrust Liability for Standard Essential Patent Holders Who Seek Injunctions*, ANTITRUST SOURCE 1 (2014), http://papers.ssrn.com/abstract=2515949 (last visited Mar 25, 2015).

[20] See e.g. M. Sean Royall, Amanda Tessar & Adam Di Vicenzo, *Deterring "Patent Ambush" in Standard Setting: Lessons from Rambus and Qualcomm*, 23 ANTITRUST MAGAZINE, 2009, at 34, http://lawlib.wlu.edu/CLJC/index.aspx?mainid=1264&issuedate=2009-07-23&homepage=no (last visited May 18, 2016); Richard Dagen, *Rambus, Innovation Efficiency, and Section 5 of the FTC Act*, 90 BOSTON UNIV. LAW REV. 1479 (2010), http://connection.ebscohost.com/c/articles/55781644/rambus-innovation-efficiency-section-5-ftc-act (last visited May 18, 2016); Philippe Chappatte, *Frand Commitments—The Case for Antitrust Intervention*, 5 EUR. COMPET. J. 319 (2009), http://www.slaughterandmay.com/media/1428378/frand_commitments_the_case_for_antitrust_intervention.pdf (last visited May 18, 2016).

[21] Chappatte, note 20; Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST LAW J. 603 (2007), http://eml.berkeley.edu/~farrell/ftp/FHSS_ALJ_2007.pdf (last visited May 18, 2016).

[22] Petrovcic, note 5 at 7.

1.4.2 Monopolization and Excessive Royalties

Other have called for a more cautious approach.[23] They express skepticism in the ability of competition law to address the SEP owner's deceptive conduct during the standardization process.[24] Hovenkamp, for example, emphasizes that antitrust law should apply only in cases where deception allows the monopolization of the market, or where there is at least a dangerous probability of success.[25] In other cases, he argues that doctrines derived from the patent legal framework are more appropriate for addressing the hold-up problem.

Other commentators have expressed particularly strong concerns with the use of competition law as a tool to address excessive royalties. In the United States, charging excessive pricing does not constitute anticompetitive conduct: courts have long recognized that charging high (or even excessive) prices is a legitimate business practice. Likewise, exploitative practices have rarely been subject to the scrutiny under EU competition law. Although article 102, TEFU provides the legal basis to address exploitative conduct, the Commission's enforcement has mainly focused towards practices of dominant undertakings that have exclusionary effects. Authors like Geradin and Rato suggested that a similar approach should be adopted in the context of SEP. They emphasize that the application of the competition law might result in false positives, which can, in turn, hinder the willingness of technology owners to take part in the standardization process.[26] In the case of Japan, the Guidelines for the Use of Intellectual Property Under the Antimonopoly Act stated that in cases where the royalties requested are prohibitively expensive, the licensor's conduct is equivalent to a refusal to license. Such conduct is not recognizable as an exercise of rights if found to deviate from or run counter to the intent and objectives of the intellectual property systems.[27]

1.5 Setting the Issues: Research Questions

The importance of the research lays in looking for a balance between innovators' interests and standard-setting objectives or in other words between intellectual property rights and industry

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[23] See e.g. Geradin and Rato, note 11; John M. Golden, *Patent Trolls' and Patent Remedies*, 85 TEX. LAW REV. 2111 (2008), http://papers.ssrn.com/abstract=991698 (last visited Mar 28, 2015); J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*, 5 J. COMPET. LAW ECON. 123 (2009), http://jcle.oxfordjournals.org/content/5/1/123 (last visited Mar 19, 2016).

[24] See e.g. Herbert J. Hovenkamp, *Standards Ownership and Competition Policy*, 48 BOSTON COLL. LAW REV. 87 (2006), http://papers.ssrn.com/abstract=889335 (last visited Mar 31, 2015).

[25] Id. at 105.

[26] Geradin and Rato, note 11.

[27] JAPAN GUIDELINES FOR THE USE OF INTELLECTUAL PROPERTY UNDER THE ANTIMONOPOLY ACT (AMMENDMENT 2015) (FINAL), 26 (2016), http://www.jftc.go.jp/en/pressreleases/yearly-2016/January/160121.html.

innovation. The relation above seems to be the core problem behind hold-up and its effects on the standardization activities. In this panorama, the scope of competition law in addressing SEP owner's opportunistic conduct seems unsettled. Precisely, our most important investigative question would be:

- What role should competition law play in addressing disputes arising in the SEP context?

Related issues derived from the preliminary inquiry would be as follows:

- What are the ultimate goals of competition and IP laws?
- Under what circumstances does the holder of an intellectual property right have market power (should there be a presumption that they do, or should it be a case -by-case assessment)?
- What is a standard and which principles govern the standardization process?
- What are the anticompetitive risks of standards?
- When the SEP owner's conducts (patent ambush and patent hold up) becomes an antitrust violation?
- Does antitrust law allow authorities and private parties to address SEP owner's opportunism?
- Does a broad interpretation of the antitrust doctrines will accommodate the SEP conducts that falls outside the traditional antitrust doctrines?
- Could other mechanisms prevent SEP owner's opportunism and encourages an effective standardization process (e.g. FRAND commitments, Ex Ante Disclosure, SSO Rules Revision)?

1.6 Literature Review

Regarding the relationship between antitrust and competition law applied to patents rights the seminal article Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting published in 2001 recognizes the danger that new products could inadvertently infringe on patents issued after designing these products. Furthermore, Shapiro identifies telecommunications and

computing as fertile ground for this phenomenon since standard-setting is a core part of bringing new technologies to market.[28] In this context, opportunistic behavior in which the patent owner try to extract excessive royalties above the value of the invention could arise since the implementer or infringer faces a substantial sunk cost due to the standardization process.[29]

This opportunistic behavior is conceptualized as a case of patent hold-up. Some authors support the Shapiro approach on the existence of patent holdup, with it negatives consequences on consumers and the respective market.[30]

Others pundits consider that even though there is a theoretical possibility of holding up, it rarely occurs in practice.[31]

1.6.1 Competition Law

Furthermore, there is an intense debate regarding the role that competition law play (or should play) in addressing the SEP owners' opportunistic conducts. Some commentators have recognized that doctrines developed in the field of the patent or contract law might be applied in dealing with the SEP owner's opportunistic conduct.[32] Also, some experts stated that antitrust intervention would provide only marginal benefits over other legal disciplines. On the other hand, antitrust intervention is based on the premise of protection of consumer welfare which private law does not protect.[33]

The literature does also not agree on the role of competition law should play in addressing exploitative conducts. Several authors supported the application of competition law maintaining that other bodies provide incomplete solutions, and only antitrust law can ensure that privates parties

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[28] See Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, 1 *in* INNOVATION POLICY AND THE ECONOMY 119 (Joshua Lerner & Scott Stern eds., 2001).

[29] *Id.*; See also Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. LAW REV. 1991 (2006), http://papers.ssrn.com/abstract=923468 (last visited Mar 28, 2015).

[30] See e.g. Thomas Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. LAW 101 (2008), http://papers.ssrn.com/abstract=1273293 (last visited May 1, 2015); Farrell et al., note 21; Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 12 AM. LAW ECON. REV. 280 (2010), http://aler.oxfordjournals.org/content/12/2/280.abstract (last visited May 18, 2016); TORTI, note 10.

[31] Geradin and Rato, note 11; Damien Geradin, REVERSE HOLD-UPS: THE (OFTEN IGNORED) RISKS FACED BY INNOVATORS IN STANDARDIZED AREAS (2010), http://papers.ssrn.com/abstract=1711744 (last visited Apr 15, 2015); Elyse Dorsey & Matthew R. McGuire, *How the Google Consent Order Alters the Process and Outcomes of Frand Bargaining*, 20 GEORGE MASON LAW REV. 979 (2013), http://www.georgemasonlawreview.org/archives/vol-20-no-4-summer-2013/ (last visited Apr 3, 2015); Sidak, note 23; Alexander Galetovic & Stephen Haber, *The Fallacies of Patent Holdup Theory*, 13 J. COMPET. LAW ECON. 1 (2017), https://academic.oup.com/jcle/article/13/1/1/3060409/THE-FALLACIES-OF-PATENT-HOLDUP-THEORY (last visited Mar 12, 2017).

[32] See e.g. Apple/Motorola 869 F. Supp., note 19; Microsoft Corp. v. Motorola, Inc. (9th Cir.), note 19; See Case 2013 (Ne) 10043 (Japan), note 19; Ginsburg, Owings, and Wright, note 19.

[33] See Dagen, note 20.

and government enforcement can seek redress where the underlying abuse harms competition.[34] In the same vein, some experts argue that patent hold-up should be considered a per se violation of Article 102 TFEU. This position claimed that there be good reasons for competition to control excessive prices if, as in the case of industry standards, completion is blocked. Furthermore, the burden of proof to show that royalties are reasonable should be on the SEP owner.[35]

Other authors have however discouraged the application of competition law towards exploitative conduct. These pundits recognize that Article 102 TFEU provides a legal basis for the intervention, but consider such intervention not desirable from the policy perspective. Controlling the level of royalties involves several difficulties, and wrong decisions may have detrimental effects on the economy. By controlling the returns on innovation, competition intervention can reduce the incentive to innovate, and through this impede dynamic competition.[36]

1.6.2 FRAND Commitment

Also, there seems to be no agreement on the specific limits that the FRAND commitment poses to the SEP owner's licensing practices and whether a FRAND commitment prohibits exploitative licensing practices. Some experts consider that FRAND commitment aims to prevent SEP owner's exclusionary and exploitative conducts. [37] According to this view, a FRAND commitment seeks to prevent abuse of market power obtained by the implementation of the standard.[38] Also, allowing SEP owners to charge whatever monopoly rate the market will bear, would impose the very economic harm that such commitment is intended to avoid.[39]

Others pundits argue that the FRAND commitment only aims to prevent exclusionary licensing

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[34] See George S. Cary et al., *The Case for Antitrust Law To Police The Patent Hold-Up Problem in Standard Setting*, 77 ANTITRUST LAW J. 913 (2011), http://www.cgsh.com/files/Publication/5f57dc9a-c4d0-401a-b2f6-d9bfb0d8011a/Presentation/PublicationAttachment/584d12a0-780c-40cb-af6a-dd93f455f709/Cary%20et%20al%20Final%20PDF%20ALJ%2077-3%20ANT308.pdf (last visited May 1, 2017).

[35] See Andreas Fuchs, *Patent Ambush Strategies and Article 102 TFEU*, *in* MORE COMMON GROUND FOR INTERNATIONAL COMPETITION LAW? 177 (Josef Drexl et al. eds., 1 ed. 2011).

[36] See Jonathan Hillel, *Standards Times Patents Divided by Antitrust Equals Infinity: The Inadequacy of Antitrust to Address Patent Ambush*, 2010 DUKE LAW TECHNOL. REV. 1 (2010), http://dltr.law.duke.edu/2010/11/15/standards-x-patents-antitrust-the-inadequacy-of-antitrust-to-address-patent-ambush/ (last visited May 18, 2016); Damien Geradin, *Abusive Pricing in an IP Licensing Context: An EC Competition Law Analysis*, 12 *in* EUROPEAN COMPETITION LAW ANNUAL 2007 A REFORMED APPROACH TO ARTICLE 82 EC 671 (Claus-Dieter Ehlermann & Mel Marquis eds., 1 ed. 2008).

[37] Michael A. Carrier, *A Roadmap to the Smartphone Patent Wars and FRAND Licensing*, 4 ANTITRUST CHRON. COMPET. POLICY INT. (2012), http://papers.ssrn.com/abstract=2050743 (last visited Apr 27, 2015).

[38] Chappatte, note 20; Cary et al., note 34.

[39] See Cary et al., note 34.

practices. They suggest that the FRAND commitment represents a promise to engage in good-faith negotiations with any undertaking willing to implement the standard.[40] According to this position, the FRAND commitment does not impose any specific limit on the level of royalties the SEP owner can charge, but only prohibits the imposition of a licensing fee that would amount to an actual refusal to license. [41] The FRAND commitment ensures access to the standard; nevertheless, IPR policies do not say how to divide economics rents between the SEP holder and the licensee.[42]

1.6.3 Injunctive Relief

In the case of injunctive relief, some experts maintain that by committing to license its SEP on FRAND terms the SEP owner implicitly waives its right to an injunction. In their view, in the case of infringement, the SEP owner has only the right to demand damages for the patent infringement.[43]

Other however criticized such interpretation. This line of thought stated that interpreting FRAND commitment as a waiver of the right of injunction violate contract law principles and, which requires that the waiver ought to be made explicit or at least be derived from circumstances that cannot possibly be interpreted in any different way.[44] In their view, a FRAND commitment does not meet such requirements. They hence suggest that even after a FRAND commitment a SEP owner might be still able to obtain an injunction against infringement.[45] Some commentators also emphasized that categorically rejecting injunctions to SEP owner would not be a good policy solution given that would confer too much power on a potential infringer. An infringer would have nothing to lose, and everything to gain if he could count on paying only the normal routine royalty non-infringers might have paid.[46]

1.6.4 Royalties Determination

Regarding reasonable royalties, some authors conclude that prior licensing agreement provides a

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[40] See Geradin and Rato, note 11.

[41] See Id.

[42] See J. Gregory Sidak, *The Meaning of Frand, Part I: Royalties*, 9 J. COMPET. LAW ECON. 931 (2013), http://jcle.oxfordjournals.org/content/9/4/931 (last visited Feb 12, 2015).

[43] Maurits Dolmans, *Standards For Standards*, 26 FORDHAM INT. LAW J. 163 (2002), http://ir.lawnet.fordham.edu/ilj/vol26/iss1/6 (last visited May 18, 2016); Lemley and Shapiro, note 29; Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: Rand Licensing and the Theory of the Firm*, 40 INDIANA LAW REV. 351 (2007), http://papers.ssrn.com/abstract=924883 (last visited Feb 13, 2015).

[44] See Geradin and Rato, note 11.

[45] Id.; Sidak, note 42.

[46] Miller, note 43; ANNE LAYNE-FARRAR, COMPETITION, INTELLECTUAL PROPERTY AND STANDARD SETTING (2014), http://www.oecd.org/daf/competition/competition-intellectual-property-standard-setting.htm (last visited Oct 12, 2015).

benchmark for future rates.[47] Other consider that a fair and reasonable royalty is one that could have been obtained in negotiation before the standard was adopted.[48] Finally, other experts have not made any attempt to define the exact meaning of FRAND. In their view, the terms of FRAND are intentionally left open to interpretation, so as to allow the parties to determine the specific content of the agreement by taking into account the specifics circumstance of the case.[49]

1.6.5 Non-Practicing Entities

Several authors maintained that NPE business structure favors opportunistic practices. By engaging in baseless litigation and enforcing dubious patents, NPE overwhelms the legal system, increases production cost and reduce the resources dedicated to innovation.[50]

Others author support NPE's saying that they can increase competition in the upstream market and provide liquidity for the market and stimulate innovation.[51]

1.7 Research's Structure

The structure of the research would be as follows: Chapter 2 will describe the intersection between competition and IP. First, it explains the fundamentals of IP and antitrust enforcement of unilateral conduct in the studied jurisdictions as well as the idea of market power, fundamental concept in antitrust analysis. Then, Chapter 3, depicts the concept of standards, standardization principles, and the IP rules standard setting organizations establish to avoid possible opportunistic conducts. Next, Chapter 4, explains the idea of hold up and its two modalities; patent ambush and strategic licensing. Chapters 5 and 6 depicts the detailed antitrust jurisprudences and the principles established by the agencies and courts regarding patent ambush and strategic conducts. Subsequently, Chapter 7, describes how antitrust enforcement is applied in this type of controversies and Chapter 8 explains

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[47] See Sidak, note 42.

[48] See Carl Shapiro & Hal R. Varian, Information Rules: A Strategic Guide to the Network Economy (1 ed. 1998).

[49] See FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION (2011); Daniel G. Swanson & William J. Baumol, *Reasonable and Non-Discriminatory (RAND) Royalties, Standard Selection, and Control of Market Power*, 73 ANTITRUST LAW J. 1–58 (2005), http://www.jstor.org/stable/40843669 (last visited Feb 11, 2015); Roger G. Brooks & Damien Geradin, *Interpreting and Enforcing the Voluntary FRAND Commitment*, 9 INT. J. IT STAND. STAND. 1 (2011), http://papers.ssrn.com/abstract=1645878 (last visited Mar 22, 2016).

[50] Rajkumar Vaikhari, *The Effect of Patent Trolls on Innovation: A Multi-Jurisdictional Analysis*, 1 INDIAN J. INTELLECT. PROP. LAW 64 (2008), http://papers.ssrn.com/abstract=1320553 (last visited Mar 22, 2016); Carl Shapiro, THE DESIGN AND USE OF PATENTS (2007), http://faculty.haas.berkeley.edu/shapiro/madrid.pdf (last visited May 13, 2016).

[51] Damien Geradin, Anne Layne-Farrar & A. Jorge Padilla, *Elves or Trolls? The role of nonpracticing patent owners in the innovation economy*, 21 IND. CORP. CHANGE 73 (2012), http://icc.oxfordjournals.org/content/21/1/73 (last visited Mar 22, 2016); Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 TEX. LAW REV. 961 (2005), http://papers.ssrn.com/abstract=510103 (last visited Mar 22, 2016).

alternative mechanisms to avoid opportunistic conducts finally Chapter 9 presents the research conclusions.

2 Chapter 2: Antitrust and Intellectual Property Interface

Competition Law and Intellectual Property apply different tools to achieve their goals. IP relies on the incentive system. By limiting, for a short period, the competition that the innovation faces in the market, patents facilitate the patent owner 's compensation for the innovative contribution and, in this way, stimulate further investments in research and innovation. Competition law prohibits an undertaking 's conduct that unnecessarily limits competition. In this way, competition law aims to keep the market as competitive as possible. The competitive market conditions then force companies to invest in innovation, with the aim to maintain or gain a strong market position.[52]

The use of different tools might lead to some tensions between the two bodies of law. The conflict does not arise as a default conflict. In most cases, the exercise of a patent right does not trigger antitrust concerns. There are nevertheless situations where the exercise of legitimate obtained right may impose anti-competitive effects.[53]

2.1 Intellectual Property or the Right to Exclude

IP owners' rights to exclude others from using their protected intangible assets are at the heart of the intellectual property system. IPR's are fundamentally the right to say 'no,' or, in other words, the right to exclude. Almost invariably, international agreements and national statutes negatively define them, thereby expressing their essentially exclusionary nature.[54] Furthermore, the justifications for granting patents rights are well known. Together with other instruments, such as grants, subsidies and public research, patents represent a policy instrument to promote innovation and technological

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[52] Petrovcic, note 5 at 44.

[53] Id. at 44.

[54] WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO), REFUSALS TO LICENSE IP RIGHTS: A COMPARATIVE NOTE OF POSSIBLE APPROACHES 38 6 (2013), http://www.wipo.int/export/sites/www/ip-competition/en/studies/refusals_license_IPRs.pdf (last visited Oct 12, 2015); See.e.g. WORLD TRADE ORGANIZATION (WTO), AGREEMENT ON TRADE-RELATED ASPECTS OF IPR (TRIPS AGREEMENT) ANNEX 1C TO THE AGREEMENT ESTABLISHING THE WORLD TRADE ORGANIZATION (1995) [Most of the provisions of the agreement define the rights granted to IP owners, by providing for the right to prevent others from copying or using the subject matter of protection. Ex. articles 14.1 (performances) and 14.3 (broadcasting), 16.1 (trademarks), 22 to 24 (geographical indications), 26 (industrial designs), 28.1 (patents), 36 (layout-designs) and 39.2 (undisclosed information).] ; Compare with WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO), 11850 BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS (1886), https://treaties.un.org/Pages/showDetails.aspx?objid=0800000280115ec9&clang=_en (Exceptions to the negative connotation can be found in some articles that enunciates copyrights with a positive declination. Ex. Article 9.1 provides that "Authors of literary and artistic works protected by the Convention shall have the exclusive right of authorizing the reproduction of these works, in any manner or form." Also a positive language is also found in two provisions of the TRIPS Agreement, article 11: "the right to authorize or to prohibit the commercial rental to the public"; article 14.2: "the right to authorize or prohibit the direct or indirect reproduction of [...] phonograms". These are, however, exceptional cases that do not change the essentially negative nature of IPRs, copyrights included.).

progress.[55] This innovative process results in the production of knowledge, which has the characteristics of a public good.[56]

2.1.1 Characteristics of Non-Tangible Goods

IPR differ sharply from property rights in tangible goods. Tangible property is naturally exclusive and rivalrous; possession over a tangible good excludes others per se from possessing it.[57] Therefore, property rights in tangible goods are primarily defined as rights to use and exploit. There is no need for the law to establish the right to prevent others from using a tangible good because that exclusion is a natural (if not physical) consequence of possession.[58]

By contrast, IPR's are property rights in intangible goods. Being intangible, the possession of their subject matter does not de facto impede per se others from possessing them simultaneously. In economics jargon, IPR cover non-rival and non- excludable subject-matter.[59]

Non-excludable goods are commodities that firms cannot provide to one consumer without simultaneously providing them to others as well. Non-rival goods are commodities which its consumption by one person does not reduce the supply available for others.[60]

Therefore, the right in that subject matter must be, primarily, protected by a legal right to exclude others from using (or copying) them, for possession alone is not enough to secure exclusivity. This non-exclusionary characteristic explains why intellectual property rights are usually stated in a negative manner (i.e., the right to exclude others from doing something rather than the positive right to do something), as opposed to rights in tangible goods. In other words, this justifies why the essence of an IPR is the right to say 'no' – this negative dimension corresponds to the very intangible nature of

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[55] See David Encaoua, Dominique Guellec & Catalina Martínez, The Economics of Patents: From Natural Rights to Policy Instruments, in Economics of Patents (2003), http://www.epip.eu/papers/20030424/epip/papers/cd/papers_speakers/Encaouaetal_Paper_EPIP_210403.pdf (last visited May 18, 2016).

[56] See Christopher S. Yoo, Public Good Economics and Standard Essential Patents (2014), http://papers.ssrn.com/abstract=2476975 (last visited Mar 3, 2015).

[57] World Intellectual Property Organization (WIPO), note 54 at 7.

[58] Id. at 7.

[59] Id. at 7.; See Yoo, note 56 (Non-excludable goods are commodities that firms cannot provide to one consumer without simultaneously providing them to others as well. Non-rival goods are commodities which its consumption by one person does not reduce the supply available for others.); See Matthias Lamping, Refusal to License as an Abuse of Market Dominance - From Commercial Solvents to Microsoft, in Compulsory Licensing: Practical Experiences and Ways Forward 121 (Reto M Hilty & Kung-Chung Liu eds., 1 ed. 2014).

[60] See Lamping, note 59.

the subject matter protected.[61]

2.1.2 Patents, Innovation and Market Distortion

Once knowledge becomes publicly available, market participants could replicate the knowledge at low cost and thus sell the invention at a price that equals the marginal cost. They would consequently be able to capture much of the inventor's profit, leaving the inventor with little possibility to recoup its past investment. In the long run, this would lead to a situation where no one would invest in research activities.[62]

On the other hand, patents create a static distortion in the market. The patent owner might be able to charge a monopoly price for its invention for the period of the patent protection. As a result, not all consumers valuing the innovation above its marginal cost will be able to buy it.[63] At the same time, a patent imposes a barrier to the access and the use of knowledge embedded in previous inventions and slow down technological development.[64] Finally, patent enforcement requires a significant amount of financial resources that could be utilized for research and development.[65] The legislator has nonetheless considered the costs imposed by the patent system as justified since they are outweighed by the benefits arising from innovation.[66] After understanding the particular characteristics of the intellectual property system, the next paragraphs explain the features of competition law.

2.2 Competition Law

Competition helps consumers get a good deal. It encourages firms to innovate by reducing slack, putting downward pressure on costs and providing incentives for the efficient organization of production. Thus, vigorous competition between companies may be considered a fundamental tool to develop robust and effective markets.[67]

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[61] World Intellectual Property Organization (WIPO), note 54 at 7.

[62] Petrovcic, note 5 at 42.

[63] Encaoua, Guellec, and Martínez, note 55 at 4.

[64] See James Bessen & Eric Maskin, *Sequential Innovation, Patents, and Imitation*, 40 RAND J. ECON. 611 (2009), http://onlinelibrary.wiley.com/doi/10.1111/j.1756-2171.2009.00081.x/abstract (last visited May 18, 2016).

[65] See Encaoua, Guellec, and Martínez, note 55.

[66] Petrovcic, note 5 at 43.

[67] Torti, note 10 at 7; See also Casey Lee, The Objectives of Competition Law (2015), https://www.academia.edu/19592850/The_Objectives_of_Competition_Law (last visited May 18, 2016).

2.2.1 Efficiency and Consumer Welfare Considerations

Enhancing efficiency is not the only objective of competition law, but other goals may be identified[68] These include the promotion of consumer welfare and consumer choice, the achievement of market integration and the encouragement of economic freedom, fairness, and equality on the market. Uncertainty has arisen as to the opportunity to consider the promotion of an effective competitive process as a means to achieve these goals or as an objective of competition per se.[69]

The United States relevant authorities have more than once identified the maximization of consumer welfare as the proper legitimate aim of competition policy, in other jurisdictions the emphasis on such a goal is less obvious.[70] For example, the European Commission, while recognizing the protection of consumer welfare as one of the predominant objectives of modern competition law, has nevertheless referred also to other goals to be achieved through the enforcement of competition law.[71]

In Japanese competition law, efficiency is not specifically mentioned in the legal text's objectives. However, the provision indicates that creative initiative of entrepreneurs stimulated by free and fair competition results in encouraging business activities of enterprises and in heightening the level of employment and people's real income. It would be logical to assume that, in this context, efficiency increase is presupposed. In any case, in the Japanese competition law, the concept of efficiency does not play a principal role at least explicitly. [72]

Furthermore, there has been a long-standing discussion on whether maximizing consumer welfare should be given the highest priority in enforcement. The most accepted theory postulates that consumer welfare itself is not the objective of the competition policy, but competition policy results in

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[68] See Faull and Nikpay: The EU Law of Competition, 1 (Jonathan Faull & Ali Nikpay eds., 3 ed. 2014); See Hill B. Wellford, Antitrust Issues In Standard Setting (2007), https://www.justice.gov/atr/speech/antitrust-issues-standard-setting; Posner, note 13.

[69] Torti, note 10 at 8; See also Lee, note 67.

[70] See Fed. Trade Comm'n & United States Department of Justice (DOJ), Horizontal Merger Guidelines (United States) (2010); See also Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979); Business Electronics Corp. v. Sharp Electronics Corp., 485 U.S. 717, 723 (1988); Leegin Creative Leather Prods. v. PSKS, Inc., 551 U.S. 877 (2007).

[71] TORTI, note 10 at 8; See also Laura Parret, *Shouldn't We Know What We are Protecting? Yes We Should! A Plea for a Solid and Comprehensive Debate about the Objectives of EU Competition Law and Policy*, 6 EUR. COMPET. J. 339 (2010), http://www.tandfonline.com/doi/abs/10.5235/174410510792283808?journalCode=recj20 (last visited May 18, 2016); Valentine Korah, *EEC Competition Policy—Legal Form or Economic Efficiency*, 39 CURR. LEG. PROBL. 85 (1986), http://clp.oxfordjournals.org/content/39/1/85 (last visited May 19, 2016); See e.g. MARK FURSE, COMPETITION LAW OF THE EC AND UK (5 ed. 2006).

[72] Compare Simon Vande Walle & Tadashi Shiraishi, *Competition Law in Japan*, *in* COMPARATIVE COMPETITION LAW 415 (John Duns, Arlen Duke, & Brendan Sweeney eds., 1 ed. 2016); and Hideaki Kobayashi, COMPETITION POLICY OBJECTIVES (A JAPANESE VIEW) (1997), http://www.jftc.go.jp/en/policy_enforcement/speeches/1997/97_0613.html (last visited May 13, 2016) (The objectives of competition law could be defined as: free and fair competition, entrepreneurship, employment and national income, democracy and development and consumer welfare.); with INTELLECTUAL PROPERTY BASIC ACT (ACT NO. 122 OF DECEMBER 4, 2002), Art. 10 (2002) (In promoting measures for the creation, protection and exploitation of intellectual property, consideration shall be paid to secure the fair exploitation of intellectual property and public interests and to promote fair and free competition.).

a consumer-welfare increase.[73]

It seems reasonable to support the view that any public policy should be addressed and implemented to maximize their well-being of the society as a whole.[74]

2.2.2 Antitrust and Standard Settings

In the context of standard setting, the enforcement of a legal test merely focused on the protection of rivalry may have undesirable effects for particular categories of consumers. Once the standard-setting body has selected a specific technology, indeed, the patent owner may try to license its rights under supra-competitive royalties and breach any terms previously subscribed. In case there is no evidence of harm to the competitive process (e.g. if the SSO could not select an alternative technology), the IP owner may escape antitrust liability.[75]

The lack of evidence means that the application of a test mainly based on harm to the competitive process would probably lead to excluding pure exploitative abuse from the range of prohibited conduct. Therefore, IPR owners could finally charge exorbitant fees without incurring the risk of being fined by the competition enforcers. The ultimate effect could be detrimental to the welfare of consumers.[76]

The pursuit of consumer and societal welfare is central to the functioning of standards institutes. Standards are crucial in today's knowledge-based economy, as they facilitate the dissemination of knowledge, ensure the interoperability of products, and hence make consumers' lives easier.[77]

Antitrust policies enforcing a consumer welfare test may work as an effective ex-post remedy to abusive behavior in SSO and may guarantee the optimal functioning of standard setting and the achievement of societal surplus.[78]

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[73] Kobayashi, note 72 (Other two theories has been suggested with less success. One considers competition policy as consumer protection legislation. Another qualifies consumer welfare a subordinate to development of the national economy. This theory has given the theoretical background to industrial policy makers when they tried to push forward Anti-Monopoly Act exemption legislation); See Act Against Unjustifiable Premiums and Misleading Representations (Act No. 134 of May 15, 1962), (1962) (The FTC does assume consumer protection responsibility, or at least a part of it. This provision regulates businesses' offering of excessive free gifts as accompaniment to sales, or offering of excessive prizes through lotteries and competition.) .

[74] TORTI, note 10 at 11.

[75] Id. at 13.; See FTC v. Rambus Inc. (D.C. Cir.), 522 F.3d 456 (2008).

[76] TORTI, note 10 at 11.

[77] See Jorge L. Contreras & David L. Newman, *Developing a Framework for Arbitrating Standards-Essential Patent Disputes*, 2014 J. DISPUTE RESOLUT. 25 (2014), http://papers.ssrn.com/abstract=2335732 (last visited Feb 16, 2015).

[78] TORTI, note 10 at 25.

The enforcement of a consumer welfare standard may further lead to achieving efficiency, which should be better considered as an indirect, despite desirable, objective of competition rules.[79]

As stated before, antitrust should not pursue the protection of the competitive process per se, as an institution, despite the content of some recent judgments. The protection of competition, as a goal may lead in some circumstances to the protection of competitors, and finally to a loss of welfare. Rather the protection of competition should be better considered as a means to achieve the primary objective.[80]

As stated by Advocate General Kokott, competition rules are not designed only or primarily to protect the immediate interest of individual competitors or consumers. Rules aim to safeguard the structure of the market, and thus competition as such (as an institution), which has already been weakened by the presence of a dominant undertaking on the market. In this way, consumers are also indirectly protected. Because where competition as such is damaged, disadvantages for consumers are also to be feared.[81]

2.3 United States Sherman Act

The basic legal provisions regarding unilateral conduct involving SEP in the United States is section 2 of the Sherman Act and section 5 of the Federal Trade Commission Act (FTCA) (under the monopolization theories).[82] Section 2 provides that "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce … shall be deemed guilty of a felony."[83]

An offense of monopoly under Section 2 of the Sherman Act has two elements:

- The possession of monopoly power in the relevant market; and
- The willful acquisition or maintenance of that power.[84]

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[79] *Id.* at 26.

[80] *Id.* at 26.

[81] Case C-95/04 British Airways plc v. Comm'n, 2007 ECR I 2331 (2007) (Opinion of Advocate General Kokott); See also e.g Case 85/76 Hoffman La-Roche & Co. AG v. Comm'n (Hoffman La-Roche), 1979 E.C.R. 461 (1979); Case 322/81 N.V. Nederlandsche Banden-Industrie Michelin v. Comm'n (Michelin), 1983 E.C.R. 3461 (1983).

[82] United States' Sherman Act, 15 U.S.C. § 2 (2013); United States' Federal Trade Commission Act, 15 U.S.C. § 45 (2013).

[83] United States' Sherman Act, note 82 at § 2.

[84] United States v. Grinnell Corp., 384 U.S. 563, 570 (1966).

Furthermore, a claim of attempted monopolization under Section 2 must prove:

- The defendant has engaged in predatory or anticompetitive conduct
- A specific intent to monopolize; and
- A dangerous probability of achieving monopoly power.[85]

2.3.1 The Private Monopolization Offense

The private monopolization offense by section 2 of the Sherman Act has two elements: market power and the anticompetitive conduct. Precisely where market power becomes so great as to constitute what the law deems to be monopoly power is largely a matter of degree rather than a matter of kind.

2.3.1.1 Market Power and Monopoly Power Differences

Therefore, market power and monopoly power are related but not the same. The Supreme Court has defined market power as the ability to raise prices above those that would be charged in a competitive market,[86] and monopoly power as the power to control prices or exclude competition.[87] If a firm can profitably raise prices without causing competing firms to expand output and drive down prices, that firm has monopoly power in the sense of the Sherman Act.[88]

Cleary, monopoly power requires, at a minimum, a substantial degree of market power.[89] Moreover, before subjecting a firm to possible challenge under antitrust law for monopolization or attempted monopolization, the power in question is required to be much more than merely fleeting; that is, it must also be durable.[90]

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[85] Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 456 (1993).

[86] National Collegiate Athletic Ass'n v. Board of Regents, 468 U.S. 85, 109 n.38 (1984); Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 27 n.46 (1984) ("As an economic matter, market power exists whenever prices can be raised above levels that would be charged in a competitive market."); Dennis W. Carlton & Jeffrey M. Perloff, Modern Industrial Organization (Global Edition) (4th Revised ed. 2015) (noting that a firm has market power "if it is profitably able to charge a price above that which would prevail under competition").

[87] United States v. E. I. Du Pont de Nemours & Co., 351 U.S. 377, 391 (1956).

[88] Harrison Aire, Inc. v. Aerostar Int'l, 423 F.3d 374, 380 (2005).

[89] Bacchus Industries, Inc. v. Arvin Industries, Inc., 939 F.2d 887 (1991) (defining monopoly power as "substantial" market power); Deauville Corp. v. Federated Dep't Stores, Inc, 756 F.2d 1183 (1985) (defining monopoly power as an "extreme degree of market power").

[90] Colorado Interstate Gas Co. v. Natural Gas Pipeline Co., 885 F.2d 683 (1989) (finding a firm lacked monopoly power because its "ability to charge monopoly prices will necessarily be temporary").

2.3.1.2 Anticompetitive Conduct

U.S. courts have struggled to provide clear guidance as to precisely what constitutes anticompetitive or exclusionary conduct.[91] In general terms, however, anticompetitive or exclusionary conduct refers to conduct that excludes rivals on grounds other than efficiency, or in a manner inconsistent with competition on the merits, or in a manner that does not make economic sense but for the elimination or reduction of competition.[92]

Under both offenses (monopolization and attempt to monopolize) the analysis focuses on the way in which the undertaking obtains or maintains its market power. In the US, exploitative practices (including excessive fees) do not constitute an antitrust offense under antitrust law, leaving the statue with limited range regarding SEP.[93] Section 2 of the Sherman Act only prohibits the anti-competitive acquisition or maintenance of monopoly power but does not determine how a lawful monopolist should use a legitimately obtained market power.[94]

An implementer challenging on antitrust grounds a SEP holder's conduct would first need to prove that the SEP holder has sufficient market power to trigger the application of section 2.[95]

2.3.2 Federal Trade Commission Act Section 5

Section 5 prohibits unfair methods of competition and unfair or deceptive acts or practices. It forbids conducts that causes or are likely to result in substantial injury to consumers. Such conduct is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to them or by benefits to competition in general. This regulation applies to unfair acts "beyond simply those enshrined in the letter or encompassed in the spirit of the antitrust laws."[96]

The FTC can base a section 5 allegation on two grounds:

- Antitrust violations, such as the Sherman Act, or

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[91] U.S. Dep't of Justice and Fed. Trade Comm'n, note 10 at 20.

[92] United States v. Microsoft Corp., 253 F.3d 34, 58 (2001).

[93] Europe and Japan both consider exploitative licensing an antitrust offense.

[94] Urska Petrovcic, *Patent Hold-Up and the Limits of Competition Law: A Trans-Atlantic Perspective*, 50 COMMON MARK. LAW REV. 1363, 1375 (2013), http://papers.ssrn.com/abstract=2375532 (last visited Mar 26, 2015).

[95] J. Gregory Sidak, *The Meaning of Frand, Part II: Injunctions*, 11 J. COMPET. LAW ECON. 201, 248 (2015), http://jcle.oxfordjournals.org/content/11/1/201 (last visited Mar 25, 2015).

[96] FTC v. Sperry & Hutchinson Co., 405 U.S. 233, 244 (1972).

- Stand-alone unfair acts that the antitrust laws do not prohibit.[97]

An unfair conduct within the meaning of § 5 demand a minimum standard or at least some indicia of oppressiveness such as

- evidence of anticompetitive intent or purpose on the part of the producer charged, or
- the absence of an independent, legitimate business reason for its conduct.[98]

The section 5 success, as a stand-alone action has been nonetheless fairly limited. Courts have been very restrictive towards the FTC's efforts to develop an independent section 5 claim and have dismissed many cases brought by the FTC.[99] These rejections resulted in a rare application of Section 5 of the FTCA as a stand-alone offense.

Recently, the FTC made a sustained effort to revisit its enforcement powers under this provision, particularly when addressing SEP owners' licensing practices.[100] As a result, the statement of principles regarding enforcement of FTC Act stated that would adhere to three principles when challenging unfair methods of competition. These principles are as follows: (1) promotion of consumer welfare, (2) use of the rule of reason, and (3) less likelihood to challenge an act or practice as an unfair method of competition on a standalone basis if enforcement of the Sherman or Clayton Act is sufficient to address such act or practice.[101] The Statement largely endorses the Commission's majority traditional case-by-case approach.[102] This casuistic method differs sharply from a minority

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[97] Sidak, note 95 at 253.

[98] E. I. Du Pont de Nemours & Co. v. FTC, 729 F.2d 128, 139–140 (1984).

[99] Petrovcic, note 94 at 1377; See e.g. Official Airline Guides, Inc. v. FTC, 630 F.2d 920 (1980); See e.g. Boise Cascade Corp. v. Federal Trade Com., 637 F.2d 573 (1980).

[100] Petrovcic, note 94 at 1377.

[101] Fed. Trade Comm'n, STATEMENT OF ENFORCEMENT PRINCIPLES REGARDING UNFAIR METHODS OF COMPETITION UNDER SECTION 5 OF THE FTC ACT (2015), https://www.ftc.gov/news-events/press-releases/2015/08/ftc-issues-statement-principles-regarding-enforcement-ftc-act (last visited May 18, 2016); Alex Okuliar & Antony P. Kim, FTC PUTS "STANDALONE" SECTION 5 ENFORCEMENT APPROACH ON THE RECORD ORRICK, HERRINGTON & SUTCLIFFE LLP (ANTITRUST AND COMPETITION NEWSLETTER) (2015), http://blogs.orrick.com/antitrust/2015/08/14/ftc-puts-standalone-section-5-enforcement-approach-on-the-record/ (last visited Sep 10, 2015).

[102] See e.g. Edith Ramirez, *Remarks Regarding Section 5 Enforcement Principles*, *in* DISTINGUISHED SPEAKER SERIES , 6 (2015), https://www.ftc.gov/public-statements/2015/08/remarks-chairwoman-edith-ramirez-regarding-section-5-enforcement-0 (last visited May 18, 2016) (I favor the common-law approach, which has been a mainstay of American antitrust policy since the turn of the twentieth century. If we think a little more deeply, we see that erring on the side of rigidity produces certainty only for some commercial actors, not necessarily for the marketplace as a whole.); See also e.g. Edith Ramirez, *Unfair Methods and the Competitive Process: Enforcement Principles for the Federal Trade Commission's Next Century*, *in* 17TH ANNUAL ANTITRUST SYMPOSIUM (2014), https://www.ftc.gov/system/files/documents/public_statements/314631/140213section5.pdf (last visited May 18, 2016).

approach, which advocates greater formality and certainty in the agency's analysis.[103]

2.4 European Union: TFEU

The European Union challenges patent holder's unilateral conduct with Article 102 of the TFEU, under the abuse of dominant position doctrine.[104] TFEU's Article 102 addresses only the behaviour of dominant undertakings and defines a dominant position as a position of economic strength, which enables the undertaking to impede effective competition in a relevant market, by allowing it to behave substantially independently of competitors, customers, and consumers.[105]

In order to prove a violation of Article 102 TFEU, the Commission needs to show that the undertaking under investigation:

- Holds a dominant position, and
- Has engaged in an abusive practice.[106]

The article has been interpreted to apply to exploitative abuses; as well as structural or exclusionary abuses directed against competitors, both in primary and related markets.[107] As soon as an IP owner holding market power uses that power or attempt to eliminate existing competition and impeding innovation, it has been difficult to argue that possible long-term innovative efficiencies can provide a

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[103] Fed. Trade Comm'n, note 101 at 6 (Commissioner Ohlhausen argued that any Section 5 policy statement should be put out for public comment before adoption and should include: [1] a substantial harm requirement; [2] a disproportionate harm test; [3] a stricter standard for pursuing conduct already addressed by the antitrust laws; [4] a commitment to minimize FTC-DOJ conflict; [5] reliance on robust economic evidence on the practice at issue and exploration of available non-enforcement tools prior to taking any enforcement action; and [6] a commitment generally to avoid pursuing the same conduct as both an unfair method of competition and an unfair or deceptive act or practice.); See e.g. Joshua D. Wright, *Section 5 Revisited: Time for the FTC to Define the Scope of Its Unfair Methods of Competition Authority*, *in* THE PAST, PRESENT, AND FUTURE OF SECTION 5 OF THE FTC ACT: PERSPECTIVES FROM THE COMMISSION, THE JUDICIARY, AND CONGRESS (2015), https://www.ftc.gov/system/files/documents/public_statements/626811/150226bh_section_5_symposium.pdf (last visited May 18, 2016) (The preferred approach is to use standalone Section 5 authority only where there are no cognizable efficiencies present.).

[104] Consolidated Version of the Treaty on the Functioning of the European Union, 2012 O.J. (C 326/47) 358 102 (2012).

[105] Petrovcic, note 5 at 49; See e.g. Case 27/76 United Brands, note 13 at 65; Case 85/76 Hoffman La-Roche, note 81 at 65; Case 322/81 Michelin, note 81 at 30 (article 102 covers practices which are likely to affect the structure of a market where, as a direct result of the presence of the undertaking in question, competition is weakened and which through recourse to methods different from those governing normal competition in product s or services based on traders' performance, has the effect of hindering the maintenance or development of the level of competition still existing in the market.).

[106] Petrovcic, note 94 at 1366.

[107] See Hawk, note 13 at 873; See Richard A. Posner, Exclusionary Practices I, in Antitrust Law, Second Edition 214 (2001); See Case 27/76 United Brands, note 13 at 249 (There are no exploitative abuses under § 2), See Id. at 215. (Structural abuses concern mergers and acquisitions that strengthen a dominant position); See Case 85/76 Hoffman La-Roche, note 81 (Exclusionary abuses concern direct or indirect harm to competitors) ; Anderman and Schmidt, note 2 at 74 (Exclusionary abuses includes acquisitions, predatory pricing, and refusal to supply and refusal to license, none of which are explicitly mentioned in article 102).

justification for such conduct.[108]

2.4.1 Abuse of Dominant Position

The concept of abuse has been defined by the Court of Justice as:

An objective concept relating to the behavior of an undertaking in a dominant position which is such as to influence the structure of a market. As a result of the very presence of the company in question, the degree of competition in the market is weakened. Furthermore such undertaking, through recourse to methods different from those which conditions normal competition has the effect of hindering the maintenance of the level of competition still existing in the market or growth of that competition. This concept contains three essential elements:

- A conduct which is likely to weaken the structure of a market by restricting competition, (i.e. driving out existing competitors or denying entry to new forms, will be prima facie abusive);
- It must be shown that the methods used to achieve this effect are different from those, which govern normal competition on the basis of traders' performance;
- The nature of the evidence required establishing that the conduct in question has the effect of hindering the maintenance or development of the level of competition still existing in the market.[109]

2.5 Act on Prohibition of Private Monopolization and Maintenance of Fair Trade (Japanese Antimonopoly Law)

The anti-monopoly law prohibits companies with market power from excluding or controlling other companies' business activity. Mere possession of monopoly power alone does not constitute private monopolization. In other words, it would not be in violation of private monopolization if an entrepreneur dominates a market because of fair competition. [110]

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[108] Anderman and Schmidt, note 2 at 74.; Case 6/72 Cont'l Can Co. v. Comm'n (Continental Can), 1973 E.C.R. 215, 26 (1973).

[109] Christopher Heath, *The Interface Between Competition Law and Intellectual Property in Japan*, *in* THE INTERFACE BETWEEN INTELLECTUAL PROPERTY RIGHTS AND COMPETITION POLICY 312, 75 (Steven D. Anderman ed., 1 ed. 2009); See Case C-170/13 Huawei Technologies Co. v ZTE Corp. & ZTE Deutschland GmbH, 2015 ECR I 000 (Electronic Report of Cases), 68 (2015); Case C-457/10 AstraZeneca AB & AstraZeneca plc v. Comm'n, 2012 ECR I 000 (Electronic Report of Cases), 74 (2012); CASE 85/76 HOFFMAN LA-ROCHE, note 81 at 91.

[110] GEOFFREY D. OLIVER, ANTITRUST ISSUES IN INTERNATIONAL INTELLECTUAL PROPERTY LICENSING TRANSACTIONS 396 (American Bar Association ed., 2 ed. 2012); See ACT ON PROHIBITION OF PRIVATE MONOPOLIZATION AND MAINTENANCE OF FAIR TRADE (JAA) (ACT NO. 54 OF 14 APRIL 1947), Art. 2(5) (1947) (The term "private monopolization" as used in this Act means such business activities, by which any entrepreneur, individually or by combination or conspiracy with other entrepreneurs, or by any other manner, excludes or controls the business activities of other entrepreneurs, thereby causing, contrary to the public interest, a substantial restraint of

2.5.1 Substantial Restraint of Competition

The prohibition on private monopolization can be distinguished from the Sherman Act 's ban on monopolization and the EU's prohibition on abuse of a dominant position, in two aspects:

First, unlike in the US or the EU, there is no statutory requirement of monopoly power or a dominant position. However, private monopolization does require a 'substantial restraint of competition' and, hence, a certain degree of market power.[111] A substantial restraint of competition exists when one company or several companies together have the authority to determine price, quality, output or other market conditions; in short, when they have market power. Hence, a substantial restraint of competition requires a finding that the practice in question creates, maintains, or strengthens market power.[112]

Second, there are two types of private monopolization: exclusion-type and control-type. Exclusion-type monopolization covers practices that are aimed at excluding competitors, such as predatory pricing or refusals to deal. Control-type monopolization, on the other hand, refers to conduct by which one company, e.g. a majority shareholder, causes another company to follow its will.[113]

2.5.2 Prohibition of Unfair Trade Practices

Monopolization cases have been scarce. Rather than invoking the private monopolization prohibition, the JFTC and private litigants often prefer to invoke the prohibition on unfair trade practices, which, contrary to private monopolization, does not require proof of a substantial restraint of competition. Moreover, amendments in 2005 and 2009 have made private monopolization subject to fines and companies are therefore more likely to resist a challenge based on private monopolization than one based on unfair trade practices.[114]

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competition in any particular field of trade.); See TAKAHIKO ITOH, HOW UNILATERAL CONDUCTS ARE REGULATED IN JAPAN (QUESTION A) (2015), http://www.ligue.org/uploads/documents/cycle%202015/Cycle%202015/rapportA/2015RapportAjaponais.pdf (last visited Oct 12, 2015).

[111] Vande Walle and Shiraishi, note 72 at 422; See also Japan Fair Trade Commission (JFTC), Guidelines for Exclusionary Private Monopolization under the Antimonopoly Act 42 3 (2009).

[112] Vande Walle and Shiraishi, note 72 at 419; Saikō Saibansho [Sup Ct] 20 February 2012, 66(2) Minshū 796, 810 (in the context of a hard-core cartel).], (2012); Saikō Saibansho [Sup Ct] 17 December 2010, 64(8) Minshū 117, 130 (NTT East v Japan Fair Trade Commission) (under point 5, second sentence; in the context of an exclusion-type private monopolization case);, (2010); Tokyo Kōtō Saibansho [Tokyo High Ct] 19 September 1951, 4(14) Kōminshū 497, 518 (in the context of a merger between Tōhō and Subaru);, (1951).

[113] Vande Walle and Shiraishi, note 72 at 423.

[114] Id. at 423.

In recent years, the JFTC has nonetheless brought some monopolization cases.[115] Although unfair trade practices may overlap with the prohibition of unreasonable restraints of trade or private monopolization in many cases, the prohibition of unfair trade practices differs from those prohibitions in the sense that it does not require a substantial restraint of competition.[116]

In Japan, the exclusionary conduct could be addressed thru the abuse of a superior bargaining position one type of unfair trade practices.[117] The prohibition is aimed at curtailing exploitative abuses in vertical transactions between businesses. It has frequently been applied to large-scale retailers exploiting suppliers or to powerful franchisors exploiting franchises.[118]

The guidelines of the JFTC make it clear that a company with a superior bargaining position does not need to have a market-dominant position.[119] Instead it only needs to have a relatively superior bargaining position compared to the counterparty. Hence, the conventional view is that the Japanese concept centers on the superior company's power vis-à-vis its trading partner, whereas the EU concept focuses on the dominant company's market power.[120]

2.6 Market Power Considerations

After studying unilateral conduct regulations, lets consider the idea of market power. The evaluation of the SEP owner's market power is an essential element of the antitrust offense. In general terms, a patent confers a monopoly over the invention. However, it does not necessarily confer the ability to behave independently from their competitors and consumers nor to control prices or exclude competition.[121] The actual market power of the patent owner depends on several others factors, such as the interest of the market in the patented good, the existence of substitutes, whether a patent also protects the alternative product and their relative costs. Even after a patent has been granted, the owner might still face considerable constraints from patented and non-patented substitutes available

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[115] See e.g. Japan Fair Trade Commission, Cease-and-Desist Order of 27 February 2009, Heisei 21 (so) no 2, 55 Shinketsushū 712, (2009); Japan Fair Trade Commission, Decision of 12 June 2012, Heisei 21 (han) no 17., (2012); Tokyo Kōtō Saibansho [Tokyo High Ct] 1 November 2013, (2013).

[116] OLIVER, note 110 at 397 (If it would be deemed that an entrepreneur commits exclusionary conduct but not be deemed that the conduct substantially restrains competition in a particular field of trade, the conduct would not fall under exclusionary private monopolization); See JAPAN FAIR TRADE COMMISSION (JFTC), note 111 at 2; See ITOH, note 110.

[117] Japanese Antimonopoly Act, note 110 at Art 2 (9)(V)-(VI)(E).

[118] Vande Walle and Shiraishi, note 72 at 430.

[119] See Japan Fair Trade Commission (JFTC), Guidelines Concerning Abuse of Superior Bargaining Position under the Antimonopoly Act II.1 (2010), http://www.jftc.go.jp/en/legislation_gls/imonopoly_guidelines.html.

[120] Vande Walle and Shiraishi, note 72 at 430.

[121] Petrovcic, note 5 at 50.

in the market, and it might be consequently unable to exercise any significant level of market power.[122]

2.6.1 Market Power Presumption For SEP

Regarding SEP, some pundits consider that market power stems from the combination of various factors. On the one hand, the essentiality of patents irrevocably ties them to the standard and therefore obliges any implementer to take a license. Furthermore, implementers are already locked into the standard when FRAND negotiations begin: they have sunk investments (e.g., in R&D and manufacturing equipment) in standard related equipment/knowledge before licensing in the SEP, and they cannot realistically envisage the development of an alternative standard at this stage.[123] The SEP holder is, therefore, able to leverage a position acquired as a result of the standard setting process to negotiate royalty rates higher than the technology would have been worth ex-ante when competing with other alternatives (for instance by seeking injunctive relief against the implementer).[124]

2.6.2 Bargaining Power Does Not Equal Market Power

Other authors consider that the patent owner's market power should be evaluate in a case by case basis. Therefore patent ownership does not equal market power at any time.[125]

In the SEP's case the approach regarding market power has been inconsistent. Some courts ruled that the proprietary technology's adoption does not equal any extra market power for the patent owner; while others stated that the patent's incorporation into a standard make the relevant market scope's equivalent to that of the patent.[126]

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[122] See Deborah Platt Majoras, RECOGNIZING THE PRO-COMPETITIVE POTENTIAL OF ROYALTY DISCUSSIONS IN STANDARD SETTING (2005), https://www.ftc.gov/public-statements/2005/09/recognizing-procompetitive-potential-royalty-discussions-standard-setting (last visited May 13, 2016).

[123] See Farrell et al., note 21; Thomas Cotter, Comparative Patent Remedies: A Legal and Economic Analysis 59 (1st ed. 2013).

[124] JUSTUS BARON & CHRYSSOULA PENTHEROUDAKIS, LICENSING TERMS OF STANDARD ESSENTIAL PATENTS: A COMPREHENSIVE ANALYSIS OF CASES 25 (2017), https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/licensing-terms-standard-essential-patents-comprehensive-analysis-cases (last visited May 1, 2017); See also Koren Wong-Ervin, *The Proper Role of Antitrust in Addressing Patent Hold-Up*, 11 MONOP. MATTERS ABA SECT. ANTITRUST LAW 11, 11 (2013), https://www.ftc.gov/system/files/attachments/key-speeches-presentations/wong-ervin_-_proper_role_of_antitrust_in_addressing_patent_hold.pdf (last visited May 18, 2016).

[125] See Illinois Tool Works Inc., et al., Petitioners v. Independent ink, Inc, 547 U.S. 28, 46 (2006); See Joined Cases C-241/91 P & C-242/91 P Radio Telefis Eireann (RTE) & Indep. Television Publ'ns Ltd (ITP) v. Comm'n (Magill), 1995 ECR I 743, 46 (1995); See EUROPEAN COMMISSION, COMMISSION COMMUNICATION — GUIDELINES ON THE APPLICABILITY OF ARTICLE 101 OF THE TREATY ON THE FUNCTIONING OF THE EUROPEAN UNION TO HORIZONTAL CO-OPERATION AGREEMENTS 2011 O.J. C 11/1 (2011).

[126] See e.g. Townshend v. Rockwell Intl. Corp., WL 433505, 35 (2000) ([t]he adoption of an industry standard incorporating [a] propietary technology does not confer any power to exclude that exceeds the exclusionary power to which a patent holder is otherwise legally entittled); Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 315 (2007) (the incorporation of a patent into a standard...makes the scope of the relevant market congruent with that of the patent); Apple, Inc. v. Samsung Elecs. Co., 11-NaN-1846, 99 (2014).

For instance, the European Commission adopted a position indicating that a SEP owner holds strong market power in the approval of the merger between Google and Motorola Mobility.[127] Once a patented technology becomes essential standard, the existence of competing standards might mitigate the concerns with opportunistic practices.[128]

Moreover, the Commission stated that the specificity of a SEP is that they have to be implemented in order to comply with a standard and thus cannot be designed around, i.e. there is by definition no alternative or substitute for each such patent. Therefore, each SEP constitutes a separate relevant technology market on its own.[129]

Defining the market so narrowly necessarily leads to finding each SEP owner dominant in the market for its technology. It creates a presumption of monopoly power for SEP owners. However, the ownership of a SEP might confer market power but this is not necessary the case. There is consequently no valid economic justification to introduce a presumption of monopoly power for SEP.[130]

The implementation of a standard can confer incremental market power to the SEP owner, but the actual level of obtained market power is an empirical, rather than a theoretical question.[131]

Moreover, the existence of sunk costs SEP-related specific investment only confers the SEP owner a bargain or circumstantial power not attributable to the specific implantation in the standard. Nevertheless, the distinction between bargain or incremental power and market power is not clearly established by the courts' practice.[132]

The mere existence of sunk costs in any particular industry does not necessarily mean that entry barriers are high or that competition within the market is not effective. There are nevertheless situations where the presence of a lock-in effect will confer on the SEP holder significant market

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[127] See Commission Decision Summary 2012/C 75/01 (Case COMP/M.6381 — Google/Motorola Mobility), 2012 OJ C 75, 53 (2012).

[128] Petrovcic, note 5 at 70.

[129] Case COMP/M.6381 — Google/Motorola Mobility) 2012 O.J. C 75, note 127 at 54.

[130] Petrovcic, note 5 at 70.

[131] Id. at 71. (Incremental market power is defined as the difference between the SEP owner's market power after the implementation of its technology in the standard and the market power it had before the implementation of its technology. Its magnitude is contingent on several factors, such as the success of the standard and the competition that the standard faces from alternatives standards and non-standardized products.); See Anne Layne-Farrar & Koren W. Wong-Ervin, Standard-Essential Patents and Market Power, in Interface between Competition and Intellectual Property Rights 7 (2016), https://papers.ssrn.com/abstract=2872172 (last visited Apr 1, 2017).

[132] Eastman Kodak Co. v. Image Tech. Servs., 504 U.S. 451 (1992) (The court relied on sunk costs to infer the existence of monopoly power.).

power. For example, when an entire industry is locked in the use of a specific standard. In such circumstances, the lock-in effect represents a barrier to entry, and might consequently affect the ability of potential competitors to challenge the SEP owner's conduct. However, the market power does not arise directly from the implementation of the standard but rather from the success of the standard itself.[133]

2.7 Chapter Summary

This chapter presents theoretical basis of IP and the enforcement of unilateral antitrust conduct. In most cases, the exercise of a patent right does not trigger antitrust concerns. The ability to exclude is at the core of an IP right. Therefore, denying IPR owners this faculty is the same as denying the exploitation of the IP. There are nevertheless situations where the exercise of legitimate obtained right may impose anti-competitive effects.

In the context of standard setting, the SEP owner could try to deceive the members of the standard-setting organization, or once the standard has been selected the patent holder may seek to license its rights under supra-competitive royalties and breach any terms previously subscribed.

The analysis of these practices may change depending on the legal framework considered. The EU and Japan legal frameworks state a more interventionist approach in comparison to the US.

In U.S. under both offenses (monopolization and attempt to monopolize) the analysis focuses on the way in which the undertaking obtains or maintains its market power. In the US, exploitative practices (including excessive fees) do not constitute an antitrust offense, leaving the statue with a limited range regarding SEP. In Europe, the importance relies on the behavior of an undertaking in a dominant position which is such as to influence the structure of a market. Finally, in Japan, there is no statutory requirement of monopoly power or a dominant position. Nevertheless a 'substantial restraint of competition' is requisite. Hence, a certain degree of market power is needed.

Finally regarding SEP, some authorities consider that market power stems from the essentiality of patents tied them to the standard as well as the implementers already locked into the standard when FRAND negotiations begin, giving the SEP holder a leverage to negotiate royalty rates.

From the jurisprudential viewpoint, the approach regarding market power has been inconsistent. Some courts ruled the proprietary technology's adoption not been equal to any extra market power for the patent owner; while others stated that the patent's incorporation into a standard makes the relevant market scope's equivalent to that of the patent. In reality, the implementation of a standard

[133] Petrovcic, note 5 at 76; See Layne-Farrar and Wong-Ervin, note 131.

can confer incremental market power to the SEP owner, but the actual level of obtained market power is an empirical issue.

3 Chapter 3: Standards and Standard Setting Organizations

A standard can be defined as a set of technical specifications that seeks to provide a common design for a product or process.[134] The International Organization for Standardization (ISO) defines standard as a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes, and services are fit for their purpose.[135]

Subject matter under standardization could be vast. It includes, among others, engineering technologies, health, safety and environment, transport, distribution of goods, construction, agriculture, and foods. It may cover products, processes, and services, and standards may provide various technical characteristics, such as physical characteristics, functional characteristics, steps, protocols, and rules. Some standards cover management systems, such as quality management systems and environmental management systems. Despite its wide usage, it seems that there is no single, universal definition of the term "standards."[136]

On a further issue, there are mainly three kinds of standard-setting bodies: first, companies producing proprietary specifications. A second category includes formal standards setting organizations, or SSO, which are recognized by governments. For example, SSO's such as the International Telecommunication Union (ITU), the International Organization for Standardization (ISO) and the International Electro-Technical Commission (IEC), established the World Standards Cooperation (WSC). The third group gathers more than 800 fora that are smaller and have a narrower focus. Apart from the first category, most organizations produce open standards that are meant to be implemented by everyone. Some, but not all, accept that patents be incorporated into their standards typically in exchange for a FRAND commitment. The major standard bodies promote openness regarding participation, transparency, and access to documents. In the ITU, for example, each member state has one vote.[137]

In this chapter, we will explain the concept of standard, emphasizing its benefits as a tool for the Information and Communication Technologies Industries (ICT) and its classification according to the

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[134] IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law Supplement 35.1 (2 ed. 2009); See also European Commission, note 4.

[135] International Organization for Standardization (ISO), What is a Standard? International Organization for Standardization (ISO), http://www.iso.org/iso/home/standards.htm (ISO is an independent, non-governmental international organization with a membership of 162 national standards bodies).

[136] STANDING COMMITTEE ON THE LAW OF PATENTS (WIPO), STANDARDS AND PATENTS (SECRETARIAT REPORT) 27 (2009), http://www.wipo.int/meetings/en/details.jsp?meeting_id=17448 (last visited Oct 12, 2015).

[137] OECD COMPETITION COMMITTEE (FR), COMPETITION, INTELLECTUAL PROPERTY AND STANDARD SETTING (FINAL REPORT) 4 (2015), http://www.oecd.org/daf/competition/competition-intellectual-property-standard-setting.htm (last visited Oct 12, 2015).

different criteria sketched out in by the doctrine. Furthermore, we will explain the various structures of standard setting organizations as well as the standardization principles which guide this activity in different jurisdictions.

3.1 Benefits of Standards

Standards serve a variety of purposes. In the domain ICT, standards have special significance, due to the following reasons:

3.1.1 Interoperability

First, standards, address especially the needs for interconnection and interoperability. These two features are particularly important for open markets, where users, who are increasingly mobile, can 'mix and match' equipment and services without the burden of switching costs, and suppliers can benefit from economies of scale, increase price competition and manufacturing volume.[138] Interoperability simplifies product development,[139] facilitates the sharing of information among purchasers of products from competing manufacturers, enhances its utility and enlarges the overall consumer market.[140]

Additionally, interoperability increase the value customers attribute to a product. Introducing a product into a market where the standard is already established often results in a greater acceptance and faster uptake of the product. Consequently, most firms will comply with a standard adopted in the market, rather than develop their proprietary alternative.[141]

3.1.2 Safety

Also, standards are equally important for ensuring safeness, reliability and environmental care. Compliance with a quality standard may be a tool for a manufacturer to convey to its consumer information about the quality of the good and differentiate the product from those of its competitors.[142] Manufacturers might also decide to implement quality standards to avoid possible liability claims.

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[138] Joe Kattan & Chris Wood, Standard-Essential Patents and the Problem of Hold-Up, 1 in William E Kovacic: An Antitrust Tribute Liber Amicorum - Volume II , 2 (Nicolas Charbit & Elisa Ramundo eds., 1 ed. 2013); See Apple, Inc. v. Motorola Mobility, Inc., JUSTIA WL 7324582 (2011); See also OECD Competition Committee, note 10 at 10.

[139] See Apple, Inc. v. Motorola, Inc. (N.D. III) II, 757 F 3d 1286, 4 (2014) (IEEE Amicus Brief Supporting No Party).

[140] See Qualcomm 501 F.3d, note 126 at 308.

[141] Petrovcic, note 5 at 25.

[142] Id. at 25.

3.1.3 Regulation

Finally, standards are also frequently referenced by regulators and legislators for protecting user and business interests, and in support of government policies.[143]

3.2 Classification of Standards

Standards could be classified into different categories: First, by the freedom of choice regarding the adoption of the rule or regulation as technical regulation or standard per se. Second, regarding its adoption thru a formal standardization procedure or by market adoption. Finally, standards could be classified as proprietary or open standards depending on the necessity of a licensing agreement for its implementation. This last classification is the most important from the standpoint of SEP.

3.2.1 Technical Regulations and Standards

The WTO Agreement on Technical Barriers to Trade (TBT) defined such documents to distinguish between those enforced by law and those for voluntary adoption. Technical regulations are documents which lay down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method.[144] Standards are documents approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method.[145]

Accordingly, standards are now understood to be voluntary whereas technical requirements imposed by law are called technical regulations.

Borraz stated four key features for standards as follows: (1) it establishment is the result of cooperation among interested parties; (2) its content is based on scientific and technical data (3) its

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[143] See European Telecommunications Standards Institute (ESTI), What are standards? European Telecommunications Standards Institute (ESTI), http://www.etsi.org/standards/what-are-standards (last visited Apr 1, 2016).

[144] World Trade Organization (WTO), Agreement on Technical Barriers to Trade (TBT Agreement) Annex 1.1 (1995) (Technical regulations are created and enforced by public authorities to address public safety concerns).

[145] *Id.* at Annex 1.2. (Standards generally aims to facilitate business transactions); See INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) & INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC), ISO/ IEC GUIDE 2 STANDARDIZATION AND RELATED ACTIVITIES GENERAL VOCABULARY 3.2 (2004), https://www.iso.org/obp/ui/#iso:std:iso-iec:guide:2:ed-8:v1:en (last visited Oct 12, 2015).

content is driven by consensus (4) its application is usually voluntary.[146]

3.2.2 De Facto and De Jure Standards

Standards could be classified as de jure and de facto. De jure standards are based on cooperation between interested parties. Thus they have been defined in the literature as cooperative or committee standards. A cooperative standard can be interpreted as a specification developed by committees for repeated use.[147] The GSM (Global System for Mobile Communication) protocol in telecommunication is an example of a cooperative standard.[148]

On the other hand, the de-facto standard has been defined as widely adopted (specifications or company standards that underlie) products, services or practices.[149] From a further point of view, de facto standards have been interpreted as standards resulting from a unilateral act and emerging through the mediation of the marketplace.[150] De facto standards usually have a significant market share, albeit they are often subject to changes (e.g. software updates). They could become cooperative standards in the long run.[151]

Within the de jure standards, some commentators have distinguished between those standards adopted by formal bodies (recognized standard-settings organizations) from those developed by technical fora or consortia (e.g. the World Wide Web Consortium [W3C] and the Institute of Electrical and Electronics Engineers [IEEE]).[152] The importance of the latter, which lack formal approval from recognized bodies, has led the EU Commission to adopt a white paper in which proposes to enable " the referencing of specific fora and consortia standards in relevant EU legislation and policies.[153]

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[146] TORTI, note 10 at 51; Olivier Borraz, *Governing Standards: The Rise of Standardization Processes in France and in the EU*, 20 GOV. INT. J. POLICY ADM. INST. 57 (2007), http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0491.2007.00344.x/abstract (last visited Apr 3, 2016) (Borraz defines a cooperative standard as a written document establishing technical specifications for good, services, or processes, resulting from a consensus, and whose application is voluntary).

[147] See THE DYNAMICS OF STANDARDS, (Tineke M. Egyedi & Knut Blind eds., 1 ed. 2008); See also e.g. Nils Brunsson, Andreas Rasche & David Seidl, *The Dynamics of Standardization: Three Perspectives on Standards in Organization Studies*, 33 ORGAN. STUD. 613 (2012), http://papers.ssrn.com/abstract=2089976 (last visited May 16, 2016).

[148] Torti, note 10 at 50.

[149] See The Dynamics of Standards, note 147; See also e.g. Brunsson, Rasche, and Seidl, note 147.

[150] Torti, note 10; Borraz, note 146.

[151] Torti, note 10 at 52.

[152] See e.g. Joseph Farrell & Garth Saloner, *Coordination Through Committees and Markets*, 19 RAND J. ECON. 235 (1988), http://www.jstor.org/stable/2555702 (last visited May 16, 2016).

[153] Torti, note 10 at 52; See European Commission, Commission Communication - Modernising ICT Standardisation in the EU : The Way Forward COM (2009) 324 final (2009).

3.2.3 Proprietary and Open Standards

The notion of proprietary does not refer to the context in which the standard has been developed. It refers to its content. A standard may be defined as proprietary when its implementation requires access to intellectual property rights. A standard is proprietary when it contains a patent or other proprietary technology owned by a firm giving it the ownership and control of the standard. Proprietary standards are often protected by intellectual property rights.[154] A standard may rely on a patented technology because the technology provides a unique solution for a specific function. It is also possible that alternative solutions existed, but that a patented technology was selected and implemented in the standard, because it was considered the optimal way to perform a specific function, regarding quality or cost efficiency.[155]

On the other hand, when a standard is non-proprietary there is no need to negotiate licensing agreements or ask for permission to use or develop the technology. Consequently, no payment of licensing fees is required. According to former EU Commissioner Kroes, non-proprietary standards avoid subjecting the future development of the standard and the technology to the commercial interest of the technology originator.[156] This creator's interest would also explain why they are usually preferred by many consortia and formal SSO.

Non-proprietary standards have driven excellent technical development, as in the case of the internet (e.g. the HTTP and HTML standards.)[157] However a legitimate question arises; would the adoption of nonproprietary standards led to fewer firms investing in innovation, since IPR owners usually aim to be rewarded for their investment in research and development.[158]

There is no consensus about what constitutes an open standard.[159] It seems clear, however, that this concept should be appraised at two different levels: (1) access to the standardization process and (2) access to the standard once adopted.[160]

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[154] Torti, note 10 at 53.

[155] Petrovcic, note 5 at 28.

[156] Neelie Kroes, BEING OPEN ABOUT STANDARDS (SPEECH 08/317) 2 (2008), http://europa.eu/rapid/press-release_SPEECH-08-317_en.htm (last visited May 13, 2016).

[157] Kroes, note 156.

[158] Torti, note 10 at 53.

[159] Jorge L. Contreras, Technical Standards, Standards-Setting Organizations and Intellectual Property: A Survey of the Literature (With an Emphasis on Empirical Approaches), in Research Handbook on the Economics of Intellectual Property Law. Vol. 2 Analytical Methods , 7 (Peter Menell, David Schwartz, & Ben Depoorter eds., 2017).

[160] Torti, note 10 at 54.

3.2.3.1 Access to the Standardization Process

The process of standard setting refers to the development and approval of the standard by the firms involved. Access to a standardization process can be interpreted as being open when (a) interested firms are not excluded from the process, been admitted by objective criteria; (b) the process is based on consensus and collaboration, and (c) procedures are transparent.[161] The importance of these elements has also been confirmed by resolutions of different international SSO, such as the Global Standards Collaboration (GSC) and the ITU. The transparency of procedures and the implementation of consensus-driven activities should usually be granted by the SSO policy rules. However, misleading and unfair conduct by the participants may undermine these objectives and, more generally, the scope of the standard setting process. The effect would be detrimental to the enhancement of innovation and may harm consumer and societal welfare.[162]

3.2.3.2 Access to the Standard Implementation

The most controversial aspect in defining the concept of openness regards on the implementation of the standard. Implementation is nowadays often compromised by firms requiring high fees for licensing their patent. This situation is typical, for instance in the telecommunication and IT sectors, where several patent disputes in the standardization process have arisen over the last decade.[163]

There are two different interpretations of the concept of open implementation. On the one hand, some authors argue that a standard is openly implemented only when it is nonproprietary or when owning IPR authorizes the use of the standard through free or open source license. This theory interprets open access as an access which is not associated with licensing restrictions.[164] The user of the standards, therefore, has no duty to pay royalties. This interpretation has been supported by the free and open source community, which advocates a definition of an open standard as non-proprietary or, at least royalty free.[165]

On the other hand, other pundits consider the implementation of a standard open both when there are no licensing restrictions (as in the case non-proprietary standards or proprietary standards licensed for free) and when the access to the intellectual property rights essential to the implementations of the

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[161] See European Commission, note 153; See also Dolmans, note 43.

[162] Torti, note 10 at 54.

[163] See Qualcomm Inc. v. Broadcom Corp., 548 F.3d 1004 (2008); See e.g. Apple, Inc. v. Motorola Mobility, Inc., note 138; See e.g. Case COMP/M.6381 — Google/Motorola Mobility) 2012 O.J. C 75, note 127.

[164] Torti, note 10 at 55.

[165] Id. at 55.

standard is subject to FRAND terms. Nevertheless, FRAND licensing terms represent material restrictions to the access to the standard, and usually, set by SSO IPR policies.[166]

3.2.3.3 Rewarding Standards

The key policy question is whether allowing patent licensing in standard setting may benefit the industry and its final consumers. As some authors have rightly noted, a genuinely patent-free standard is not always as open to competition as a standard with reasonable licensed patents. If SSO were to exclude patent licensing from standard setting, there would be fewer firms entering the market. It should not be forgotten that IPR owners are incentivized to invest recourses in innovation as long as they are rewarded for their economics efforts. Rewards may consist of running royalties (based on sold units or total revenues), upfront lump sum fees, or cross-licenses in the case of vertically integrated firms (firms holding IPR and manufacturing downstream).[167]

Exclusion of IPR licensing from standardization may hence lead to less innovation and less competition within the standards setting process. In other words, the immediate consequence could be a reduced number of standards and lower quality. The ultimate effect could be detrimental to the welfare of consumers and may impact negatively on their consumption levels. Decreased consumer demand may then lower production levels, thus harming societal welfare as a whole. A slightly different position has been adopted by Kroes, which argued that IPR should not be included in a standard when there are no demonstrable benefits over free non-proprietary alternatives. Nevertheless, the former EU competition policy Commissioner at the same time recognized that the patent system is a tremendously effective mechanism to create incentives to innovate and reward successful innovation.[168]

3.3 Structure of Standard Organizations

As stated in the introduction, the structure and modus operandi of private SSO's may differ considerably from organization to organization. SSO's are mostly industry-based. Their members are often representatives of the industry affected by the discussed standard. Membership includes manufacturers of standard-compliant goods, technology suppliers and can also include consumers, representatives from academia or regulatory bodies.[169]

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[166] Id. at 55.

[167] Id. at 56.

[168] Id. at 56.; See Kroes, note 156.

[169] Petrovcic, note 5 at 23.

Also, the structure of the organizations varies from country to country, and so does their degree of dependence on the government.[170] In some countries (e.g. France), the SSO has the status of a public body. The adopted standards are considered administrative acts, and compliance with them is mandatory for all markets players. In other countries (e.g., U.K and Germany), the SSO has no legislative power. The decision to produce goods in compliance with the standard set by those SSO is therefore left to the market unless provided differently by a specific legal enactment. [171]

3.3.1 Private Standards Setting Collaborations

Industry created private networks are growing rapidly and consistently, especially in those industries characterized by a rapid technological development. These private networks usually gather competing firms with different degrees of influence in the marketplace and promote the development of standards.[172]

In the context of fora and consortia, standardization is faster, more effective and less formal that the processes of formally entrusted SSO. The faster process occurs because private industry created bodies usually have fewer procedural safeguards and fewer members who often have a significant influence in the market concerned and may even control the improvements of the standards-setting process.[173] Additionally, dominant firms can exclude from standardization those rivals that would probably make the whole process slower and challenging.[174]

These characteristics at the same time may imply risks under antitrust law. Concerns for competition enforcement agencies may arise if few firms with high market power or joint-dominance control and direct standardization activities, from the procedure to the structure and composition of the SSO.[175]

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[170] See Contreras, note 159.

[171] Petrovcic, note 5 at 23.

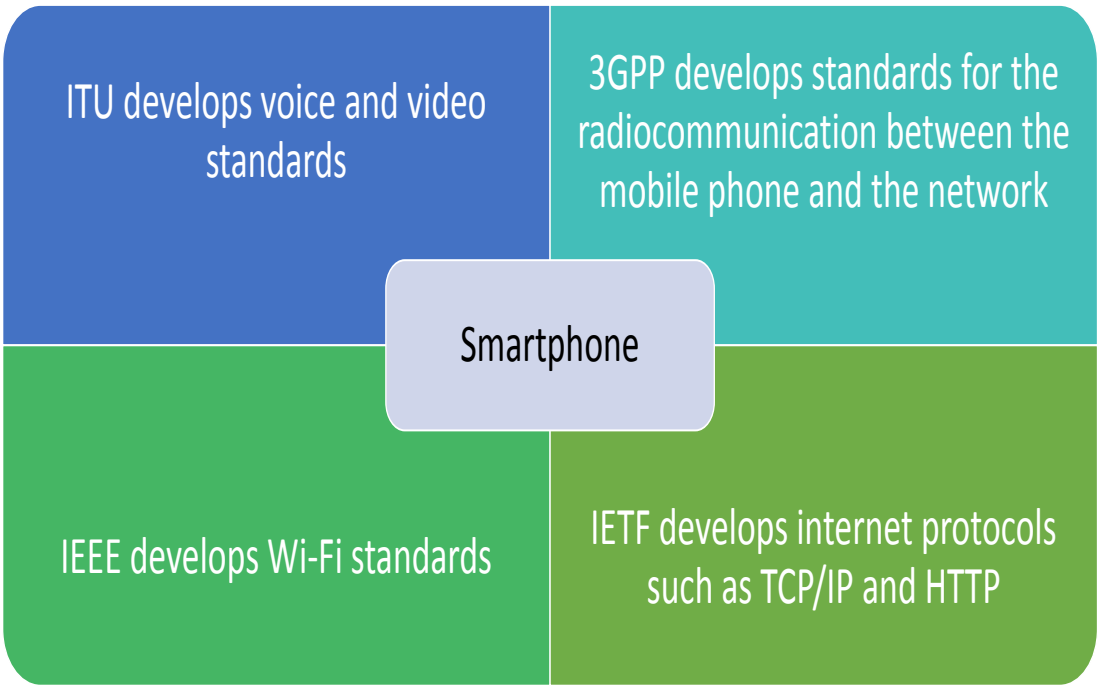
[172] Carl Shapiro, Setting Compatibility Standards: Cooperation or Collusion?, in Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society , 81 (Rochelle Cooper Dreyfuss, Diane Leenheer Zimmerman, & Harry First eds., 1 ed. 2001); See also European Commission, Commission Regulation (EU) 1025/2012 on European Standardization amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC and repealing Council Decision 87/95/EEC and Decision 1673/2006/EC 2012 O.J. L 316/1 (2012).

[173] See Justus Baron & Tim Pohlmann, *Who Cooperates in Standards Consortia—Rivals or Complementors?*, 9 J. COMPET. LAW ECON. 905 (2013), http://jcle.oxfordjournals.org/content/9/4/905 (last visited May 17, 2016); See also Henry Delcamp & Aija Leiponen, *Innovating Standards Through Informal Consortia: The Case of Wireless Telecommunications*, 36 INT. J. IND. ORGAN. 36 (2014), http://www.sciencedirect.com/science/article/pii/S0167718713000787 (last visited May 17, 2016).

[174] Torti, note 10 at 58.

[175] *Id.* at 58.

Figure 1: Many Standards - Many Standards Bodies[176]



The collaborative goal of SSO is to adopt and promote standards that either does not read on anyone right (nonproprietary) or, if they do, are developed under the condition that IPR's are licensed under FRAND terms.[177] In the second case owners and users of patents are incentivized to cooperate and establish standards which should facilitate the production of interoperable end products on patented technologies.[178]

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[176] ANTOINE DORE, COMPETITION, INTELLECTUAL PROPERTY AND STANDARD SETTING (ITU NOTE) 8 See Slide 7 (2014), http://www.oecd.org/daf/competition/competition-intellectual-property-standard-setting.htm (last visited May 1, 2017).

[177] See Chappatte, note 20; See also Anne Layne-Farrar, A. Jorge Padilla & Richard Schmalensee, *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of Frand Commitments*, 74 ANTITRUST LAW J. 671 (2007), http://papers.ssrn.com/abstract=996700 (last visited May 18, 2016).

[178] Torti, note 10 at 58; See Sidak, note 23.

Figure 2: Standard Bodies and Resulting Standards[179]

Different standards bodies and their resulting standards

Standards-setting entity	Produces	Examples
Single companies	'Proprietary specifications'.	Standards that evolve from a specific company or vendor.
Formal standards-developing organizations (SDOs)	'Open standards' (which can become 'de jure standards' if their implementation is mandated by law).	ITU, ISO, IEC, ETSI, various national standards bodies, etc.
Forums and consortia (quasi-formal SDOs)	Typically, open standards, but may produce closed standards, depending on the organization in question.	IETF, Broadband Forum, W3C, Bluetooth consortium, OASIS, etc.

3.4 Standardization Guiding Principles

The guiding principles for standardization in connection with the TBT Agreement have had a major influence not only the international standard-setting organizations but also on the national sphere. The principles are developed in quite some detail but are divided into (1) transparency (2) openness (3) impartiality and consensus (4) effectiveness and relevance (5) coherence (6) development dimension.[180] The WTO principles have guided both US and EU regulations of standards.

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[179] DORE, note 176 at See Slide 8.

[180] See World Trade Organization (WTO), note 144 (See articles 2, 5 and Annexes III to the WTO /TBT Agreement and thereto connected decisions. Annex III of the TBT Agreement is the Code of Good Practice for the Preparation, Adoption and Application of Standards, which is known as the WTO Code of Good Practice. In accepting the TBT Agreement, WTO members agree to ensure that their central governments standardizing bodies accept and comply with this Code of Good Practice and agree also to take reasonable measures to ensure that local government, non-governmental and regional standardizing bodies do the same. The Code is therefore open to acceptance by all such bodies. In addition, the TBT Agreement is reviewed annually and triennially and the reviews become important interpenetrations of the document. Under the TBT decisions and recommendations setting out criteria defining the principles of an international standards developing organizations have been issued. These decisions/principles came out of the Second Triennial Review on May 23 2002 and specify that principles for an international standard setting organization are: transparency, openness, impartiality, effectiveness, relevance, consensus, performance-based, coherence, due progress and technical assistance.); Björn Lundqvist, Standardization Under EU Competition Rules and US Antitrust Laws: The Rise And Limits of Self-Regulation 118 (Steven D. Anderman & Rudolph J. R. Peritz eds., 2014).

3.4.1 Standardization Principles in Europe

Under the EU law, the Regulation on European Standardization uses these principles when stipulating requirements for the identification of consortia-derived standards to be used for ICT technical specification which may be referred to in public procurement procedures.[181] Europe identifies seven distinct goals of SSO patent policies: (1) enabling informed decisions about technology inclusion, alternatives, and design-around, (2) ensuring that licenses for SEPs are available, (3) preventing patent hold-up, (4) preventing patent "ambush" and blocking, (5) preventing excessive cumulative royalties (stacking), (6) preventing discrimination among implementers of a standard, and (7) ensuring transparency about SEP.[182] However, few SSOs explicitly state the goals or desired effects of their patent policies.[183]

Nonetheless, in comparison with the requirements for identifying ICT technical specifications, i.e., standards derived from consortia in the ICT sector (cf. Annex II Regulation of 1025/2013), the governing rules are more limited. Moreover, these rules seem somewhat restrictive in comparison to the WTO principles of standardization.[184]

Finally, The Commission has adopted on 19th April 2016 a Communication setting up ICT standardization priorities for the Digital Single Market as part of the package on "Digitizing European Industry."

The Communication proposes a two-pillar plan to prioritize and deliver an efficient and sustainable ICT standard-setting for the DSM, to address the challenges of the digitization of the economy.

- Firstly, it identifies a list of priority building blocks for the Digital Single Market where improved ICT standardization is most urgent, proposing actions with concrete deliverables and a timeline in those domains (5G, IT, Cybersecurity, Cloud and Big Data).
- Secondly, the Commission proposes a high-level political process, to deliver and ensure leadership through standards, fostering a high-level commitment from a broad stakeholder

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[181] EUROPEAN COMMISSION, note 172 at Art. 13 and Annex II; ECORYS NETHERLANDS & EINDHOVEN UNIVERSITY OF TECHNOLOGY (ECIS), PATENTS AND STANDARD: MODERN FRAMEWORK FOR IPR-BASED STANDARDIZATION (2014).

[182] See European Commission, note 153; Contreras, note 159 at 16; LUNDQVIST, note 180 at 124 (Specifically, the Regulation on European Standardization focuses on [1] transparency of the work program [2] transparency of standards [3] stakeholders' participation, with specific focus on SME, consumer groups and public authorities and [4] consensus. There are also specific rules concerning harmonized standards, which may be objected to, scrutinized and revised).

[183] See Rudi Bekkers & Andrew Updegrove, *IPR Policies, and Practices of a Representative Group of Standards-Setting Organizations Worldwide*, *in* SYMPOSIUM ON MANAGEMENT OF INTELLECTUAL PROPERTY IN STANDARD-SETTING PROCESSES (2012).

[184] LUNDQVIST, note 180 at 124.

base, including from industry, standard-setting organizations, and the research community, as well as from EU institutions and national administrations.[185]

3.4.2 Standardization Principles in the United States

The regulation under US law does not stipulate similar requirements for consortia created standards. Instead, it states that federal agencies, on their use of, participation in, development of voluntary consensus standards, should adopt them wherever possible, instead of creating proprietary, non-consensus standards.[186]

Voluntary standards in the USA are developed by standard setting bodies accredited by the American National Standard Institute (ANSI).[187] ANSI does not write standards. Instead, the Institute accredits standard developers that will establish consensus standard among interested parties. ANSI pledged to publish American national standards of interest and consensus, and to meet principles of openness, due process, the balance of interest and consensus, and to meet the obligations of the WTO Code of Good Practice.[188]

ANSI's basic requirements based on the WTO Code of Good Practice. There are nine requirements, which are quite similar to the demands of CEN (and e.g ISO and ITU): (1) the standardization process needs to be open to all and anyone affected by the activity (2) there shall be a balance of interests among the participants of the SSO (3) single entities or groups of participants with similar interests must not be dominant (4) effort in good faith shall be made to resolve potential conflicts between and among existing ANS (5) the notification of a standard must be done through a suitable media for facilitating participation (6) written views and opinions shall be taken into consideration (7) standards shall be adopted by consensus (8) the opportunity for appeal must be available; and (9) procedure shall be in writing.[189]

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[185] European Commission, COMMISSION COMMUNICATION - ICT STANDARDISATION PRIORITIES FOR THE DIGITAL SINGLE MARKET COM (2016) 176 FINAL (2016), https://ec.europa.eu/digital-single-market/en/news/communication-ict-standardisation-priorities-digital-single-market (last visited May 18, 2016); European Commission, COMMISSION PRESS RELEASE COMMISSION TAKES STEPS TO MODERNISE EU'S STANDARDISATION POLICY (2016), https://ec.europa.eu/digital-single-market/en/news/commission-takes-steps-modernise-eus-standardisation-policy (last visited May 18, 2016).

[186] See National Technology Transfer and Advancement Act (NTTAA), (1996), http://www.nist.gov/standardsgov/nttaa-act.cfm.

[187] See American National Standards Institute (ANSI), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) ANSI OFFICIAL WEBSITE, http://www.ansi.org (last visited May 13, 2016) (Private non-profit organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States).

[188] LUNDQVIST, note 180 at 119.

[189] See National Information Standards Organization (NISO), ANSI ESSENTIAL REQUIREMENTS: DUE PROCESS REQUIREMENTS FOR AMERICAN NATIONAL STANDARDS (2016), http://www.niso.org/apps/group_public/document.php?document_id=12091 (last visited May 18, 2016).

3.4.3 Standardization Principles in Japan

In Japan, the de jure standard-setting body is the Japanese Industrial Standards Committee (JISC). In the JISC, there are technical committees, which are in charge of deliberating on the original draft of a Japanese Industrial Standard (JIS). The draft of a JIS is usually prepared by the relevant parties and submitted to the JISC for formal deliberation.[190]

The JISC is in charge of authorization and confirmation, but the role is limited since a substantial part of the original draft is made by the relevant parties. In sum, it could be said that the role of the JISC technical committee is to authorize submitted draft proposals rather than substantial discussion. The JISC is the equivalent of United States' ANSI. The functions of the two organizations are similar in that they are both responsible for setting de jure standards, which are used as national standards.[191]

On the other hand, de facto standards and consortium standards are typically formulated by interested producers, typically private corporations. De jure standards are public standards, usually set by governmental or quasi-governmental agencies such as the JISC and ANSI, whereas de facto standards, including consortium standards, are set through market mechanisms. The latter types of standards are strongly production-oriented, and the objective is promoting corporate innovativeness and increasing profitability. De jure standards, however, have a broader perspective than production, and may also aim to maintain public safety and foster social welfare.[192]

A notable difference between Japan and the United States in the de jure standard setting is that SDO membership is not necessarily allocated evenly among producers, users, and neutral parties. According to ANSI, US corporations are thought to participate in SSO activities for pursuing their profit, whereas in the JISC representation is supposed to be equally allocated among these parties under the Industrial Standardization Act of Japan.[193]

A JIS is the de jure standard formulated by the JISC, mainly concerning industrial products and management systems. The JISC is a governmental committee in the Japanese Ministry of Economy,

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[190] See Japanese Industrial Standards Committee (JISC), JAPANESE INDUSTRIAL STANDARDS COMMITTEE (JISC) (JISC) OFFICIAL WEBSITE, http://www.jisc.go.jp/eng/index.html (last visited Jan 18, 2015); Suguru Tamura, *Who participates in de jure standard setting in Japan? The analysis of participation costs and benefits (Japan)*, 17 INNOV. MANAG. POLICY PRACT. 400, 416 (2015), http://www.tandfonline.com/doi/abs/10.1080/14479338.2015.1054604 (last visited May 17, 2016); See also AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), STANDARDS AND CONFORMITY ASSESSMENT BODIES (JAPAN).

[191] See Japanese Industrial Standards Committee (JISC), note 190; Tamura, note 190 at 416.

[192] See Japanese Industrial Standards Committee (JISC), note 190; Tamura, note 190 at 416.

[193] See INDUSTRIAL STANDARDIZATION ACT (ACT NO. 185 OF JUNE 1, 1949), (1949); See Japanese Industrial Standards Committee (JISC), note 190; Tamura, note 190 at 416.

Trade, and Industry (METI). Its activities are publicly oriented.[194]

3.5 Standard Setting Organizations IP Policies

To avoid that the exercise of rights concerning essential patents impedes research and development and hampers production or sale of products adopting the standards as well as to promote spreading of the standards, each SSO provides its intellectual property policy (IPR Policy). In other words, a document describing principles for disclosing and licensing of essential patents.[195]

These policies regulate the various procedures which follow in the adoption of the standard. As stated, these provisions should also function as an incentive to participate in the standard setting process, as the participants need to be able to rely on the declarations of their fellow members that they are fully disclosing the existence of any rights related to the chosen standard and are respecting any established licensing terms. Without this assurance, firms would seldom choose to be part of standardization process; this would consequently lead to an inefficient result in the development of standardized technologies.[196]

These rules are of particular importance as they aim to neutralize any potential risk of misleading and unfair conduct, leading to patent ambush, strategic licensing conducts or supra-competitive fees by the IPR owners. Whether hold-up is frequent or not is a controversial issue due to the lack of detailed empirical studies; however, there is a growing consensus that there is a problem that needs to be addressed.[197]

IPR policies' detailed provisions vary among SSO's, but mainly stipules two obligations. First, the patent holder should indicate the ownership of any standard-essential patent (including those pending). The SSO would not evaluate validity or essentiality of the proposed essential patent.

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[194] See Japanese Industrial Standards Committee (JISC), note 190; Tamura, note 190 at 416.

[195] See generally Bekkers and Updegrove, note 183; E.g. European Telecommunications Standards Institute (ETSI), note 6; E.g. Institute of Electrical and Electronics Engineers (IEEE), note 6.

[196] Michael C. Naughton & Richard Wolfram, *The Antitrust Risks of Unilateral Conduct in Standard Setting, in the Light of the FTC s case Against Rambus Inc*, 49 ANTITRUST BULL. 699, 702 (2004), http://connection.ebscohost.com/c/articles/15275218/antitrust-risks-unilateral-conduct-standard-setting-light-ftc-s-case-against-rambus-inc (last visited May 18, 2016).

[197] TORTI, note 10 at 61; See e.g. RUDI BEKKERS, CONCERNS AND EVIDENCE FOR EX-POST HOLD-UP WITH ESSENTIAL PATENTS (2015), http://papers.ssrn.com/abstract=2663939 (last visited Oct 12, 2015); Ericsson, Inc. v. D-Link Sys, 773 F.3d 1201 (2014); Joshua D. Wright & Douglas H. Ginsburg, *Patent Assertion Entities and Antitrust: A Competition Cure for a Litigation Disease?*, 79 ANTITRUST LAW J. 501 (2014), http://papers.ssrn.com/abstract=2587191 (last visited Aug 27, 2015) (We do not need special antitrust rules for patent holdup; much less for patent assertion entities. The rule is simply that the plaintiff must demonstrate that the conduct results in the acquisition of market power, not merely the ability to extract existing monopoly rents.); Douglas H. Ginsburg, Koren Wong-Ervin & Joshua D. Wright, *The Troubling Use of Antitrust to Regulate FRAND Licensing*, 10 ANTITRUST CHRON. COMPET. POLICY INT. (2015), https://www.competitionpolicyinternational.com/the-troubling-use-of-antitrust-to-regulate-frand-licensing/ (last visited May 18, 2016).

Likewise, it should specify the willingness to grant a license for the essential patent under FRAND terms. If a SEP holder makes a FRAND declaration, the SSO includes the technology subject to the patent in the standard and, when the holder fails to make such declaration, it considers the change of standards to exclude the technology protected by the essential patent.[198]

3.5.1 Disclosure Rules

Disclosure rules impose on the participants of standard-setting bodies the duty to reveal the existence of any rights related to the standard. These provisions are established by SSO with the intent to limit patent ambush and, more in general, misleading and unfair conditions of the participants.[199] Typically, the disclosure duty concerns only to essential patents IPR: those rights that would be infringed in the case of implementation of the standard.[200] Furthermore, it is important to determine the time and subject of disclosure.[201]

3.5.1.1 Time of disclosure

Although requiring disclosure, the SSO seldom clarify the optimal timing to reveal the existence of essential IPR. Some organizations advise IPR holders to disclose as soon as it is reasonably feasible but before the approval of the standard.[202] However, disclosure, only when a standard is close to being approved, may be too late as, in the meantime, costs may have become sunk, and partial commitment may have been made. At the same time, disclosure, when a process has just begun, may also be problematic for IPRs owners, as in early stages the SSO may consider too many alternatives.[203] The time of disclosure should reflect the balance the optimal functioning of SSO processes and the need to enable innovators to exactly know what type of IPR might conflict with the proposed standards.[204]

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[198] LUNDQVIST, note 180 at 136; See e.g. European Telecommunications Standards Institute (ETSI), note 6; See e.g. Institute of Electrical and Electronics Engineers (IEEE), note 6; See e.g. also OECD COMPETITION COMMITTEE (FR), note 137 at 2.

[199] Farrell et al., note 21 at 624; See Japan Fair Trade Commission (JFTC), note 10.

[200] European Telecommunications Standards Institute (ETSI), note 6 at 15 (6); Institute of Electrical and Electronics Engineers (IEEE), note 6; See Japan Fair Trade Commission (JFTC), note 10.

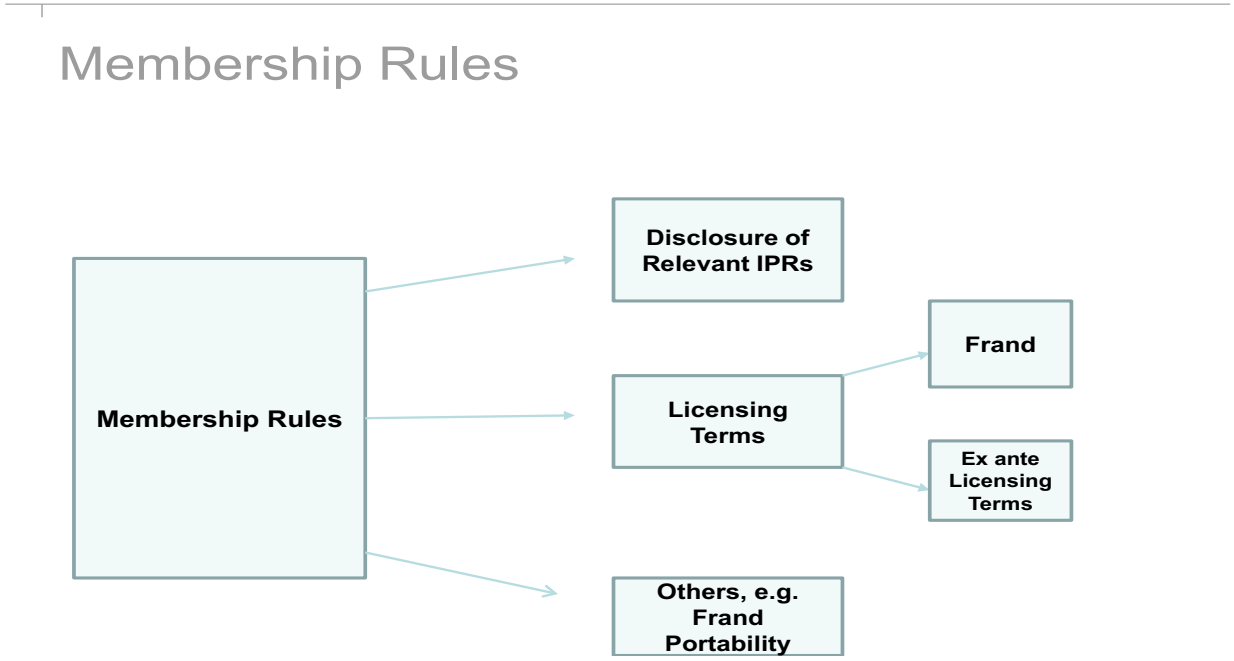
[201] TORTI, note 10 at 64.

[202] Institute of Electrical and Electronics Engineers (IEEE), note 6 at § 6.2; See also DORE, note 176.

[203] Farrell et al., note 21 at 628; See also Bernhard Ganglmair & Emanuele Tarantino, *Patent Disclosure in Standard Setting*, 36 INT. J. IND. ORGAN. (2014), http://www.nber.org/chapters/c13210 (last visited Jun 28, 2016); and Anne Layne-Farrar, *Assessing IPR Disclosure Within Standard Setting: An ICT Case Study*, *in* MODERN TRENDS SURROUNDING INFORMATION TECHNOLOGY STANDARDS AND STANDARDIZATION WITHIN ORGANIZATIONS (1 ed. 2014) In relation to ETSI projects, ex-post disclosure is usually the norm. Late declarations are an industry-wide practice.].

[204] Torti, note 10 at 64.

Figure 3: SSO Membership Rules[205]



3.5.1.2 Subject of Disclosure

Regarding disclosure, distinguish between pending and issued patents is of utmost importance. Most SSO required to disclose issued patent only, seldom asking to reveal pending patent applications.[206] Nevertheless, among the SSO requiring disclosure of pending patents are JEDEC, ETSI, W3C, and ITU.[207]

There are both practical and policy reasons why SSO do not establish a duty to disclose pending patent applications. First, it is hard enough for firms to determine whether an issued patent may potentially be related to a proposed standard. It would be all harder in pending patent applications since during the standardization process the may change several times.[208] Second, it has been contended that requiring firms to disclose pending patent applications in standard-setting context

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[205] Pierre Marcel Regibeau, STANDARD ESSENTIAL PATENTS: PROGRESS, REMAINING ISSUES AND A MEASURE OF OUR IGNORANCE (JAPAN) Slide 5 (2015), http://www.rieti.go.jp/en/events/15060901/info.html (last visited May 13, 2016).

[206] Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. LAW REV. 1889, 1904 (2002), http://scholarship.law.berkeley.edu/californialawreview/vol90/iss6/3/ (last visited Jan 19, 2015).

[207] JEDEC Solid State Technology Association, JEDEC MANUAL OF ORGANIZATION AND PROCEDURE JM21R 65 (2015), http://www.jedec.org/sites/default/files/JEDEC_Patent_Policy_Presentation_20150709_Final.pdf (last visited May 18, 2016); European Telecommunications Standards Institute (ETSI), note 6; World Wide Consortium (W3C), W3C PATENT POLICY (2004), http://www.w3.org/Consortium/Patent-Policy-20040205/ (last visited May 18, 2016); International Telecommunication Union (ITU), GUIDELINES FOR IMPLEMENTATION OF THE COMMON PATENT POLICY FOR ITU-T/ITU-R/ISO/IEC (2015), http://www.itu.int/en/ITU-T/ipr/Pages/default.aspx (last visited May 18, 2016).

[208] Naughton and Wolfram, note 196 at 763.

would unjustifiably compromise firms' trade secret rights.[209]

The vast majority of standard-setting bodies do not usually require their members to disclose pending patent applications potentially related to the proposed standard. Some experts argued that a duty to disclose pending patent applications would seldom be a concern for the applicant's trade secret rights. This argument is based on the fact that only the existence and scope of the patent or patent applications and not the technical know-how of the invention itself must be disclosed to an SSO. While the very existence of a patent application may sometimes be a valuable secret, in the context of a publicly adopted standard the legitimate value of this particular secret does not seem very high. [210] Disclosure requirements should include, beyond issued IPR also a partial description of pending rights. Such as descriptions may preserve the fairness and transparency of the whole process, and reduce the risk of misleading behavior. [211]

3.5.1.3 Effectiveness of Disclosure Rules

Biddle stated that disclosure rules have an intuitive appeal and a strong theoretical justification as a method for addressing an informational asymmetry, nevertheless does not work as a practical matter and suggests that other tools (such as enhanced "FRAND" licensing obligations and improved patent valuation methodologies) should be used instead. The author makes five key assertions:

- Disclosure rules create an over-disclosure problem. Only a small percentage of patents declared as essential by patent owners are in fact critical to the implementation of the standard—an unsurprising fact given the incentives of some parties to err on the side of disclosure.

- Disclosure rules also result in an under-disclosure problem. For various reasons, certain key parties will have essential patent claims but will not disclose.

- Disclosure rules suffer from a timing problem. Information is frequently available only after critical decisions have been made.

- Disclosure rules create an action problem: that is, standards setting organizations are ill-equipped to use the disclosed information productively.

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[209] Swanson and Baumol, note 49 at 51; Torti, note 10 at 65.

[210] Lemley, note 206 at 1943.

[211] Torti, note 10 at 66.

- Disclosure rules present a complexity and cost problem. Disclosure requirements are complex, ambiguous, and differ widely across SSOs. Participants in the standards development process must bear significant associated costs.

3.5.2 Licensing and FRAND Commitment

Licensing provisions usually try to solve the alleged tension between IPR and antitrust, by requiring SSO members either to license their patents for free or to charge licenses under fair, reasonable and non-discriminatory terms (FRAND).[212]

If IPR owners do not agree to comply with these rules, the SSO will often refuse to adopt the proposed standard or will withdraw the standard if it has already been promulgated.[213] Besides, in case the SSO decides to maintain the standard reading on patents of firms committed to FRAND terms, a court would not necessarily grant these companies an injunction.[214]

At the simplest level, a FRAND commitment is a pledge made by a patent holder to an SSO that it will license patented technology it has submitted for inclusion in a standard on fair, reasonable, and non-discriminatory terms. The typical FRAND pledge contains two key elements: 1) ready access to patented technology for implementers of the standard and 2) a reasonable price for that access. No SSO provides a specific definition of what fair or reasonable means, or how to assess whether any particular terms and conditions are "discriminatory."[215] Let's view the nature and enforceability of the FRAND commitment from the legal doctrine perspective.

3.5.2.1 Theoretical implications of the FRAND Licensing Model

FRAND commitments address specific market failures in SEP licensing: the anti-commons and royalty stacking issues induced by the fragmentation of patent ownership, and the hold-up and hold-out problems that may result from the ex-post timing of FRAND negotiations. It is important to keep in mind that all these concepts are mainly theoretical. Therefore, FRAND often fails to account for the

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[212] Mikko Valimaki, *A Flexible Approach to RAND Licensing*, 29 EUR. COMPET. LAW REV. 686, 690 (2008), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1261642 (last visited May 18, 2016).

[213] See David J. Teece & Edward F. Sherry, Standards Setting and Antitrust, in The Transfer and Licensing of Know-How and Intellectual Property 165 (2009).

[214] Lemley, note 206 at 1932; Miller, note 43 at 358; Shapiro, note 30; Sven Gallash, *The Referral of Huawei v ZTE to the CJEU: Determining the Future of Remedies in the Context of Standard-Essential Patents (Case Note)*, 34 EUR. COMPET. LAW REV. 443, 443 (2013), https://www.academia.edu/4107493/The_referral_of_Huawei_v_ZTE_to_the_CJEU_determining_the_future_of_remedies_in_the_context_of_standard-essential_patents (last visited Apr 15, 2015); Ginsburg, Owings, and Wright, note 19 at 1.

[215] Anne Layne-Farrar, The Economics of FRAND, in The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech 43, 2 (D. Daniel Sokol & Roger D. Blair eds., 1 ed. 2017).

variety and complexity of SEP licensing arrangements. Moreover, the lack of transparency on actual FRAND licenses makes it difficult to isolate relevant facts properly.[216]

Licensing contracts in the ICT field (including FRAND) usually take place on an ex-post basis (i.e., the implementer is already using the patent invention when negotiations start) and on a non- exclusive basis.[217] Some other characteristics of FRAND licensing arrangements that can be important in practice, but are overlooked in the economic literature are the following:

- Theoretical models usually consider one-way licenses with running royalties between vertically separated SEP owners and implementers. In contrast, implementers are often SEP holders in practice, and they frequently strike cross-licensing agreements. Such agreements may involve the two-way payment of running royalties, but also partial cancellation of these fees and the payment of a lump sum fee.

- Theoretical models often assume that the SEPs are unambiguously identified and that licensing contracts concern only these SEPs. However, it is often difficult to properly identify SEPs, and non-essential patents may be tied to SEP licensing contracts. It is also possible that one licensing arrangement encompasses SEPs relating to several different standards.

- Many theoretical models assume that the SEPs are ironclad patents, conferring their owners with a full-fledged monopoly power to set the royalty rate. In practice, the SEP holder's ability to impose a given rate may depend on its capacity to enforce the related patent in court. Enforcement depends on parameters such as the size of the portfolio, the legal strength of the patents, the parties' capacity to incur the (possibly high) costs of litigation, and the courts' interpretation of FRAND commitments.[218]

3.5.2.2 Enforcement of FRAND Commitment and Patent Law

The Anglo-Saxon patent legal system recognizes both doctrines that may apply to the implementation of a FRAND commitment when a patent owner fails to comply with SSO rules. Which doctrine is most applicable depends upon which obligation the patent holder is accused of violating: disclosure or reasonable and non-discriminatory licensing.

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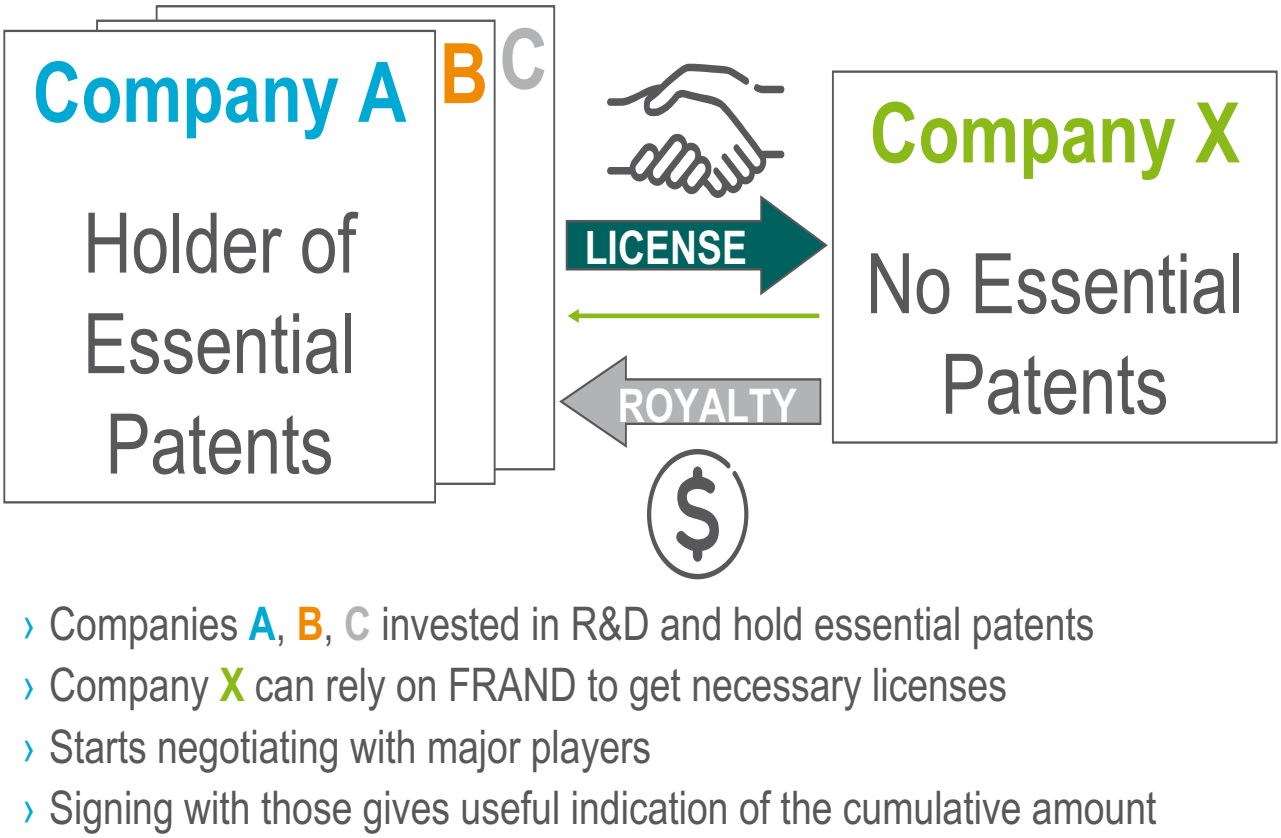
[216] Baron and Pentheroudakis, note 124 at 24.

[217] See Bharat N. Anand & Tarun Khanna, *The Structure of Licensing Contracts*, 48 J. IND. ECON. 103 (2000), http://onlinelibrary.wiley.com/doi/10.1111/1467-6451.00114/abstract (last visited Feb 9, 2017); BARON AND PENTHEROUDAKIS, note 124.

[218] See ECORYS NETHERLANDS AND EINDHOVEN UNIVERSITY OF TECHNOLOGY (ECIS), note 181.

Figure 4: FRAND Licensing[219]



Equitable estoppel comprises three basic elements: 1) conduct constituting a representation or concealment, 2) that is relied upon by the other party, 3) to the other party's detriment. As a rule, equitable estoppel applies when there is an inconsistency of behavior or contradictory conduct by the opponent. It may also apply if the SEP owner's conduct was misleading and the potential licensee demonstrates both reliance and material prejudice. These characteristics render equitable estoppel particularly well-suited to cases where SEP owners fail to comply with the SSO obligations for disclosure, but not in the event of a commitment to license on fair and reasonable terms –the FRAND commitment per se is not misleading, but rather affirms the intent of the patentee to enforce its patent.[220]

On the other hand, the doctrine of implied license involves a different type of conduct, namely the conduct of the IP holder in the marketplace. If an IP owner declares its willingness to license SEPs on

[219] Ericsson (Telefonaktiebolaget L. M. Ericsson), ERICSSON PATENT PORTFOLIO INCLUDING LTE Slide 14 (2012), https://www.ericsson.com/res/site_JP/press/2012/doc/medai_brief_lte_patent_121029e.pdf (last visited May 18, 2016).

[220] BARON AND PENTHEROUDAKIS, note 124 at 36; See Lemley, note 206.

FRAND terms, users of the standard may assume that they are free to use that standard as long as they pay a reasonable royalty – despite the lack of specific license between them and the SEP holder. Unlike equitable estoppel, the doctrine of implied license is only applicable outside the SSO context because it relies on the beliefs and expectations of the parties to the sales transaction.

As a policy matter, Lemley suggests construing a FRAND commitment as the grant of a license itself, rather than merely a contract with the SSO. Such approach has the following advantages: First, it ensures that all users of the standard benefit from the license, even if they would be unable to sue for breach of the SSO contract itself. Second, it sharply narrows the scope of the issues that must be litigated in these cases (i.e., license scope and royalty rate versus injunctions, damages and attorneys' fees) and, relatedly, makes it possible for the SSO to resolve those issues ex-ante. Third, and most importantly, the implied license approach reduces opportunism by SEP owners because they have already licensed their patents. It may also lessen the need for the courts to rely on mechanisms like antitrust and fraud to deal with opportunistic behavior such as hold-up.[221]

3.5.2.3 Enforcement of FRAND Commitment and Contract Law

Some commentators view FRAND commitments as voluntary contracts between each SEP owner and the SSO, with standard implementers as third-party beneficiaries. According to this view, some SSO IPR policies tie the commitments with SSO membership while others request that participants disclose the patents they believe are standard- essential along with a FRAND licensing commitment for each disclosure.[222] This contractual approach is more frequent, especially in larger SSOs.[223] It has the advantage of informing SSO members and future implementers about who owns SEPs for a given standard.

In other words, each SSO sets its terms for a FRAND commitment, which could be phrased as an offer to negotiate a license on fair and reasonable terms – it is not a commitment to negotiate a contract at a

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[221] BARON AND PENTHEROUDAKIS, note 124 at 36; See Lemley, note 206; See Jorge L. Contreras, *A Market Reliance Theory for FRAND Commitments and Other Patent Pledges*, 2015 UTAH LAW REV. 479 (2014), http://papers.ssrn.com/abstract=2309023 (last visited Feb 16, 2015) (Proposes that patent pledges generally precede formal license agreements and other contracts, but are nevertheless intended to induce the market to make expenditures and adopt common technology platforms without the fear of patent infringement. The "market reliance" theory for the enforcement of patent pledges, is grounded in the fact that patent pledges are promises, whether or not they fulfil the requirements of common law contract, and promises ought to be enforced.).

[222] Baron and Pentheroudakis, note 124 at 33; See Institute of Electrical and Electronics Engineers (IEEE), note 6; See European Telecommunications Standards Institute (ETSI), note 6 (ETSI's IPR policy provides that when essential IPR is disclosed, ETSI will request - but not oblige - the owner of the IPR to undertake in writing that it is prepared to grant irrevocable licenses on FRAND terms and conditions, and as such to waive its right to refuse to offer a license to those seeking one.).

[223] See ECORYS NETHERLANDS AND EINDHOVEN UNIVERSITY OF TECHNOLOGY (ECIS), note 181; YANN MENIERE, FAIR, REASONABLE AND NON-DISCRIMINATORY (FRAND) LICENSING TERMS 8 (2015), https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/fair-reasonable-and-non-discriminatory-frand-licensing-terms-research-analysis-controversial (last visited Oct 12, 2015).

set rate. The FRAND commitment typically arises either as a function of the SSO's By-laws/IPR policies or as a separate explicit agreement such as the IEEE "letters of assurance.[224] For instance, ETSI's IPR policy provides that when essential IPR is disclosed, ETSI will request - but not oblige - the owner of the IPR to undertake in writing that it is prepared to grant irrevocable licenses on FRAND terms and conditions. Consequently, such waiving its right to refuse to offer a license to those seeking one.[225]

These inherent ambiguities of a FRAND commitment underpin its nature as an "incomplete" contract. From an economic perspective, incomplete contracts do not signal inefficiency. They are rather a predictable and efficient result given the costs associated with identifying all contingencies that might arise during the life of the contractual relationship. From a legal point of view, however, the incompleteness of FRAND contracts expresses the insufficiency of contract law to govern ex-post opportunism in the field of SEP licensing.[226]

In other words, the FRAND contract between a SEP holder and an SSO delineates the implementer's rights, as a third-party beneficiary of the FRAND contract, to receive access to the SEP holder's standard-essential technology.[227]After the relevant standard is adopted, the implementer/potential licensee can seek to enforce the patent holder's promise as a third-party beneficiary. However, it remains unclear whether non-members of the corresponding SSO who use the standards will also be considered third-party beneficiaries of the FRAND commitment – some scholars argue against non-members having enforceable third-party beneficiary rights under U.S. law.[228]

Similarly, the binding effect of the FRAND commitment as a contractual agreement and a preliminary form of a concluded licensing agreement resonates with European scholars as well as courts. For instance, French law allows enforcement from a third party of a contract by which one of the parties agrees to confer a benefit on third parties. In Germany, this preliminary commitment takes place under exceptional circumstances insofar as it develops a binding effect before the fixation of the specific licensing terms.[229] With regards to whom this binding effect is addressed; however, the

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[224] Baron and Pentheroudakis, note 124 at 33; See Institute of Electrical and Electronics Engineers (IEEE), note 6.

[225] European Telecommunications Standards Institute (ETSI), note 6.

[226] See Joanna Tsai & Joshua D. Wright, *Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts*, 80 ANTITRUST LAW J. 157 (2014), https://papers.ssrn.com/abstract=2467939 (last visited Feb 27, 2017); BARON AND PENTHEROUDAKIS, note 124 at 33.

[227] See Sidak, note 95.

[228] BARON AND PENTHEROUDAKIS, note 124 at 33; See Lemley, note 206.

[229] Baron and Pentheroudakis, note 124 at 34.

views differ: Some argue that the FRAND commitment is only binding towards the own SSO members, whereas others extend the mandatory effect to any potential licensee. Finally, there is also the view that a FRAND obligation is merely a call to potential licensees to make a licensing offer.

Given that FRAND commitments do not create a license but merely leave open the possibility of a license, the threshold question is whether the FRAND commitment creates a contract or merely prescribes a duty to negotiate or grant a license in good faith. Accepting the contractual basis of a FRAND commitment depends on the various Civil Law and Common Law traditions of contract law and enforcement - the governing law will not be uniform (typically the law of an SDO's local jurisdiction). Where contract law is a possibility, the (subjective) intent of the parties plays a central role in the interpretation of these contracts.

At the same time - and to comply with its FRAND commitment - the SEP holder must make a FRAND offer in good faith. Should the SEP holder decide to enter further negotiations with a potential licensee, the question arises whether the construct of a FRAND contract also imposes on the SEP holder to negotiate in good faith. Some US district courts have affirmed this obligation during the formation of a contract: Any offer, be it an initial offer or an offer during a back-and-forth negotiation, must comport with the implied duty of good faith and fair dealing inherent in every contract.[230]

3.5.2.4 Enforcement of FRAND Commitment and Property Law

A different approach follows a middle path and applies property law to FRAND commitments. They namely recognize that the FRAND commitment is an enforceable contract that pertains to the treatment of intellectual property. As a prelude to licensing, the FRAND commitment can be characterized as contractually created property interests in the covered patent. A FRAND commitment is not a license, but when a patent owner makes a FRAND commitment, this acts as a conditional covenant not to sue, whereby the patent holder promises not to sue standard implementers for infringement unless and until good faith attempts at negotiation fail.[231]

According to this methodology, the treatment of patents in the standard-setting context is a fifth area where the rights cannot be characterized as solely in rem or solely in personam. When a patent is declared essential to a standard, the patent owner has in rem rights which the law must protect against a broad and indefinite class of potential infringers, and all of the adopters of the standards

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[230] *Id.* at 34.; See Microsoft Corp. v. Motorola, Inc. (W.D. Wash) II, 864 F Supp 2d 1023 (2012); APPLE, INC. V. SAMSUNG ELECS. CO., note 126.

[231] See Carol Mullings Hayes & Jay P. Kesan, *FRAND's Forever: Standards, Patent Transfers, and Licensing Commitments*, 89 INDIANA LAW J. 231 (2014), http://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=11097&context=ilj (last visited May 18, 2016); BARON AND PENTHEROUDAKIS, note 124 at 38.

have a duty to respect the IP rights of those who own SEPs. When a patent owner enters into a license with an implementer, this creates an in personam relation with affirmative obligations exchanged between defined parties. This perception of the FRAND commitment as a hybrid that bears the qualities of both property and contract is especially apparent when a patent, which is subject to a FRAND commitment, is then transferred. The class of potential licensees still has a negotiation right, but the patent owner against whom these rights may be asserted is unknown, giving the transfer traits of a quasi-multilateral relation and the FRAND commitment a servitude that runs with the patent.[232]

The exact meaning of FRAND remain vague despite scholars and practitioners have been struggling with it for quite some time.[233] It remains consequently unclear what are the specific obligations that such commitment imposes on the SEP owner.[234] Firms may often have a differing perspective when interpreting if royalties are fair, reasonable and non-discriminatory.[235]

As stated by Lemley, it is all good and well to propose that SSO requires licensing on reasonable and nondiscriminatory terms; but without some idea of what those terms are, reasonable and non-discriminatory licensing loses much of its meaning.[236]

3.6 Chapter Summary

Standardization plays a central role in today's global economy. Mainly in the Information and Communication Technology (ICT) business field standards allow interoperability among different devices, ensure safety parameters and created a controlled environment for firms and consumers.

Standards are classified according to several criteria such as freedom of choice on adoption, mechanisms of adoption and the accessibility to its content. Among these categorizations, proprietary standards or those standards protected by intellectual property rights are of utmost importance. Its prominence arises from the need to include monetized intellectual property rights into standards as

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[232] See Hayes and Kesan, note 231; BARON AND PENTHEROUDAKIS, note 124 at 38.

[233] Torti, note 10 at 67.

[234] PETROVCIC, note 5 at 180; See also Kai Uwe Kuhn, Fiona M. Scott-Morton & Howard A. Shelanski, *Standard Setting Organizations Can Help Solve the Standard Essential Patents Licensing Problem*, ANTITRUST CHRON. COMPET. POLICY INT. (2013), https://www.competitionpolicyinternational.com/standard-setting-organizations-can-help-solve-the-standard-essential-patents-licensing-problem/ (last visited May 18, 2016); Dennis W. Carlton & Allan Shampine, *An Economic Interpretation of FRAND*, 9 J. COMPET. LAW ECON. 531, 532 (2013), http://jcle.oxfordjournals.org/cgi/doi/10.1093/joclec/nht019 (last visited Feb 16, 2015).

[235] See e.g. Pat Treacy & Sophie Lawrance, *FRANDly fire: are industry standards doing more harm than good?*, 3 J. INTELLECT. PROP. LAW PRACT. 22 (2007), http://jiplp.oxfordjournals.org/content/3/1/22 (last visited Jun 13, 2016); Brooks and Geradin, note 49; Jorge L. Contreras, RETHINKING ND: SDO-BASED APPROACHES TO PATENT LICENSING COMMITMENTS (2012), http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1030&context=fac_works_papers (last visited May 13, 2016).

[236] Lemley, note 206 at 1964.

an essential tool to encourage innovation and efficiency while ensuring accessibility to implementers and consumers.

From the structural perspective, standard setting organizations vary according to jurisdiction and industry. The industry created private networks of competing firms get together to develop standards taking advantage of a less rigid environment that permit a faster working dynamic; this is an essential characteristic of innovation and technology markets. These networks also imply antitrust concerns regarding bilateral and unilateral conducts.

The World Trade Organization through the TBT Agreement, as well as each studied jurisdiction, have established standardization principles to assure the standardization process as encourage innovation and consumer welfare. Each SSO has its IPR policies or principles describing rules and procedures to disclose and license essential patents. These regulations stipulate two main obligations: declaration of ownership and willingness to the license on FRAND terms. Ideal disclosure timing cannot be easily determined because it conflicts with the interest of the IP holder, SSO's and the implementer. On the other hand, the disclosure of pending patents may jeopardize the whole patenting system because it leads to exposure of trade secrets.

The typical FRAND pledge contains two key elements: 1) ready access to patented technology for implementers of the standard and 2) a reasonable price for that access. No SSO provides a specific definition of what fair or reasonable means, or how to assess whether any particular terms and conditions are "discriminatory." Furthermore, the term does not take into account characteristics of the ICT market such as cross-licensing agreements, the entanglement of some patents with more than one standard or one standard with several patents. Finally, FRAND should allow the IP holder to get the fair pricing for the patent base on patent content as opposes to the size of the portfolio, the legal strength of the patent or the IRP holder capacity to incur in costs of litigation. Finally, different approaches attempted to define the enforcement of a FRAND commitment thru various legal theories such as contract, patent and proprietary law with no consensus from the doctrine.

4 Chapter 4: Opportunism and Antitrust Intervention

The SEP licensing framework might open the door for opportunism. The concerns with SEP holders focus on two practices: patent ambush and strategic licensing.[237] As stated in chapter one, a patent ambush occurs when the patent holder participates in the standardization procedure and intentionally conceals the existence of a patent that covers technology that might be relevant to the discussed standard.[238] Only after the SSO implements the patented technology and manufacturers start producing in compliance with the standard, the SEP owner reveals the existence of its patents.[239] A patent ambush occurs ex-ante, that is, during the standardization process and harms competition between rival technologies based on the SEP holder deceptive conduct by misinforming the standard organizations and its rivals.[240]

On the other hand, strategic licensing arises ex-post or after the implementation of the technology in the standard, as the use of the SEP becomes mandatory for producers of standard-compliant goods.[241] By holding up its SEP the patent owner gains the role of a gatekeeper, controlling not only the access to the SEP but also the aces to the entire standard.

4.1 Hold Up Concept

The notion of "patent hold-up" has been pivotal for several years in both economic literature and policy debates related to patents and standardization. From a general perspective, hold-up occurs when a gap between economic commitments and subsequent commercial negotiations enables one party to capture part of the fruits of another's investment, broadly construed. Hold-up can arise, in particular, when one party makes investments specific to a relationship before all the terms and conditions of the relationship are agreed. Hold-up generally leads to economic inefficiency that contracting parties, and courts interpreting contracts, often try to avoid.[242]

An important consequence is that the risk of hold-up can undermine ex-ante incentives for implementers to adopt and invest in standards, which is also detrimental for patent holders who seek

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[237] Petrovcic, note 5 at 4.

[238] See e.g. Geradin and Rato, note 11 (Patent ambush occurs where an IPR owner willfully and knowingly fails to meet its duty to disclose to a SSO ownership of IPR which subsequently incorporated in the standard under adoption).

[239] Petrovcic, note 5 at 5.

[240] Id. at 5.

[241] Hawk, note 13 at 873 (An exploitative abuse has been defined as conduct that makes "use of the opportunities arising out of [a company's] dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition); See Case 27/76 United Brands, note 13; See Posner, note 13 at 193.

[242] See Farrell et al., note 21.

to promote the wide adoption and market success of the standard. Hold-up may furthermore amplify the royalty stacking problem when the ownership of SEPs is fragmented, which again generates opportunity costs for implementers as well as licensors.[243] Furthermore, the concern is exacerbated in high-technology industries where essential patents are or could be held by nonpracticing entities that are invulnerable to counterclaims.[244]

4.1.1 Empirical Evidence

It is worth emphasizing that the literature on patent hold-up in the context of standards has been so far mostly theoretical so that the actual magnitude of this problem remains questionable in the absence of solid empirical evidence. It must be noticed in particular that the type of ex-post licensing negotiations that could generate a risk of hold-up are standard practice in ICT, as opposed to other sectors.[245] It is, therefore, necessary to establish what is a hold-up as opposed to normal licensing practices and whether these criteria differ in the case of standard-essential patents.[246] Some authors claim that "some of the implications of the "patent holdup" theory are empirically testable; however, the theory has not been empirically tested yet." [247]

Among the reasons against the possibility of hold up the pundits mention the following

- Holding up is particularly unlikely when the implementer has the legal right to challenge the offered licensing terms in court if it believes that the licensing terms provided by the SEP holder are not FRAND. This route affects the negotiation and safeguards the implementer against unreasonable terms.[248]

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[243] See Josh Lerner & Jean Tirole, *Standard-Essential Patents*, 123 J. POLIT. ECON. 547 (2015), https://doi.org/10.1086/680995 (last visited Feb 14, 2015); François Lévêque & Yann Ménière, *Patent pool formation: Timing matters*, 23 INF. ECON. POLICY 243 (2011), http://www.sciencedirect.com/science/article/pii/S0167624511000291 (last visited Feb 10, 2017); U.S. Dep't of Justice & United States Patent & Trademark Office (USPTO), POLICY STATEMENTS ON REMEDIES FOR SEP SUBJECT TO FRAND (2013); See also FED. TRADE COMM'N, note 49; U.S. DEP'T OF JUSTICE AND FED. TRADE COMM'N, note 10.

[244] Daniel Culley, Malik Dhanani & Maurits Dolmans, *Learning from Rambus—How to Tame Those Troublesome Trolls*, 57 ANTITRUST BULL. 117, 120 (2012), http://journals.sagepub.com/doi/abs/10.1177/0003603X1205700105 (last visited Apr 4, 2017).

[245] See Anand and Khanna, note 217.

[246] Baron and Pentheroudakis, note 124 at 25.

[247] Kirti Gupta, *The Patent Policy Debate in the High-Tech World*, 9 J. COMPET. LAW ECON. 827 (2013), http://jcle.oxfordjournals.org/content/9/4/827 (last visited Jun 24, 2015); See e.g. Gregor Langus, Vilen Lipatov & Damien Neven, *Standard-Essential Patents: Who Is Really Holding up (and When)?*, 9 J. COMPET. LAW ECON. 253 (2013), http://jcle.oxfordjournals.org/content/9/2/253 (last visited Apr 3, 2015).

[248] Sidak, note 95 at 231; Dennis W. Carlton & Allan Shampine, *Identifying Benchmarks for Applying Non-Discrimination in Frand*, 8 ANTITRUST CHRON. COMPET. POLICY INT. 1, 5 (2014), http://papers.ssrn.com/abstract=2462234 (last visited Apr 3, 2015); See also Joshua D. Wright, *SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts*, , 20 (2013), https://www.ftc.gov/sites/default/files/documents/public_statements/ssos-frand-and-antitrust-lessons-economics-incomplete-contracts

- Even if one accepts for the sake of argument that patent hold up could arise, there is no reason to assume that the SEP holder will use the right to an injunction as a tool to hold up the infringer. The SEP holder might seek an injunction for a legitimate purpose— for example, against an infringer that is not willing to pay FRAND royalties. Similarly, the SEP holder might threaten an injunction as a tool to force the implementer to come to the negotiating table.[249]

- Third, there is no reason to assume that the royalties negotiated under the threat of an injunction will be outside the FRAND range. The SEP holder's request for an injunction does not guarantee that the judge will issue such a remedy. Courts have been reluctant to enjoin implementers of FRAND-committed patents, such that the SEP holder's ability to obtain a remedy is far from self-evident. When the likelihood of getting an injunction is low, the threat created by request for an injunction is unlikely to distort the negotiation process in any material way.[250]

- The risk of an infringer's opportunistic behavior (reverse hold up) increases when the infringer believes its worst-case outcome after litigation is to pay the same amount it would have paid earlier for a license.[251] The implementer's incentive to refuse to license decreases when there are perceived costs of delay. When an infringer does not face the risk of its infringing products being enjoined or excluded from the market, the costs of infringing are litigation costs plus the expected monetary damages that the infringer would pay after the court' s finding of infringement.[252]

4.1.2 Using Circumstantial Proof

Against these arguments, some pundits stated that it is important to made a critical re-assessment of the hold-up debate. Due to the absence of direct and indirect empirical evidence concerning the likely effects of the alleged hold up conducts, assessing them against an appropriate counterfactual is difficult.[253]

/130912cpip.pdf (last visited May 18, 2016) (Despite the amount of attention patent hold-up has drawn from policymakers and academics, there have been relatively few instances of litigated patent hold-up among the thousands of standards adopted).

[249] Sidak, note 95 at 233; See also Wright, note 248 at 30.

[250] Sidak, note 95 at 234.

[251] See U.S. Dep't of Justice and United States Patent & Trademark Office (USPTO), note 243 at 7 n.15.

[252] Sidak, note 95 at 235; See also Wright, note 248.

[253] See Jorge L. Contreras, Regulating Patent Hold-Up: An Assessment in Light of Recent Academic, Policy and Legal Evolutions (2016), http://www.lcii.eu/2016/03/18/record-of-the-lcii-conference-on-regulating-patent-hold-up/ (last visited Jan 22, 2016).

Obviously, well-functioning markets are not sufficient to exclude anticompetitive behavior. Therefore, the enforcement of antitrust law, circumstantial evidence is enough to prosecute antitrust violations and market-wide statistical/empirical evidence is not required. Agencies should continue to monitor, investigate and prosecute anticompetitive conduct involving SEP Preventing potential hold-up remains thus a valid policy objective.[254]

Supporting this viewpoint, the US DOJ stated that the theory of hold-up is well founded in economics and whether it is happening is a bit of a sideshow. The agency based its argument the fact that FRAND commitments are incorporated into the IP policies of SSOs to deal with hold-up. The policies ensure that the patent holder retains a reasonable reward and that the implementer will not be held up.[255]

4.2 Patent Ambush: Deception in the Technology Market (Ex-Ante)

Participants in the standardization process might have an interest in their technology being implemented in a standard. The ownership of a SEP may provide several benefits to the owner, such as generating licensing revenue, facilitating cross-licensing, and signaling technological competence.[256] Each participant (including non-practicing entities or NPE) may consequently aim to demonstrate the superiority of its technology and in this way, obtain its implementation in the standard. As a result, there may be competition among participants in the standardization process for the implementation of their technology in the standard. Strong competition in the technology market is indeed desirable. The problem arises, however, if participants in the standardization process so not compete based on merit, but engage in deceptive practices.[257]

In a patent ambush situation, the implementers of a standardized technology, unaware ex-ante of the existence of potentially blocking patents or patent applications, invest resources in the implementation of a standard that infringes the hidden patents.[258]

4.2.1 Types of Patent Ambush

Patent ambush arises in several circumstances. For example, the SEP owner can make an affirmative

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[254] See Id.

[255] See Renata B. Hesse, Regulating Patent Hold-Up: An Assessment in Light of Recent Academic, Policy and Legal Evolutions (2016), http://www.lcii.eu/2016/03/18/record-of-the-lcii-conference-on-regulating-patent-hold-up/ (last visited Jan 22, 2016).

[256] See e.g. KNUT BLIND ET AL., STUDY ON THE INTERPLAY BETWEEN STANDARDS AND INTELLECTUAL PROPERTY RIGHTS (IPRS) 213 12 (2011), http://ec.europa.eu/enterprise/policies/european-standards/files/standards_policy/ipr-workshop/ipr_study_final_report_en.pdf (last visited Oct 12, 2015).

[257] Petrovcic, note 5 at 80.

[258] Torti, note 10 at 129.

false statement to the SSO, by maintaining that it holds no patent covering the technology relevant for the standard under discussion. Only once the patented technology is implemented in the standard, and its use becomes essential for all manufacturers of standard-compliant goods, the SEP owner reveals the existence of its patent, and starts with legal enforcement. Alternatively, the SEP owner might not make an affirmative false statement, but only stay silent and hide the existence of its patent interest, until the technology has been implemented in the standard.[259]

Furthermore, patentees induce adoption by representing that the invention can be practiced for free or at reasonable cost.[260] The SEP owner discloses the existence of patents, but falsely commits to license its patented technologies under FRAND terms. Once the technology is implemented in the standard, the owner reneges its commitment, and offers its SEP only on non-FRAND licensing terms. The deceptive conduct might affect the technology market, where technologies compete for the implementation of the standard.[261]

The central enquiry is whether the patentee breached its duty to disclose its interests in the prospective standard or renege on a promise to license and by in doing so misled SSO members into adopting it.[262]

4.2.2 Patent Ambush Consequences

These deceptive practices might have several undesirable effects. By hiding the existence of its patent rights, or making a false FRAND commitment, the SEP owner confers to the participants in the standardization procedure the wrong impression that its technology is available at no cost, or in the case of a false FRAND commitment, available under FRAND terms. This might induce the SSO to implement the SEP owner's technology in the standard, although if full information were available, alternative technologies would be selected. By engaging in a deceptive practice, the SEP owner can thus exclude competitors from the technology market.[263]

The SEP owner's deceptive behavior may also have other negative consequences. It may lead to the adoption of a suboptimal standard, if, as result of the deception, suboptimal technologies are

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[259] See e.g. Kylie M. Pappalardo & Nicolas P. Suzor, *Standardisation and patent ambush : potential liability under Australian competition law*, 18 COMPET. CONSUM. LAW J. 267 (2011), http://www.lexisnexis.com.au/aus/products/catalog/current_htm/cclj.asp (last visited May 24, 2016); PETROVCIC, note 5 at 80.

[260] Daryl Lim, Patent Holdups, in The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech 222, 228 (D. Daniel Sokol & Roger D. Blair eds., 1 ed. 2017).

[261] Petrovcic, note 5 at 80.

[262] Lim, note 260 at 6 del pdf.

[263] Petrovcic, note 5 at 80.

implemented in the standard. The SEP owner's deception might also facilitate strategic licensing conducts. In the Rambus case, for example, the patent ambush allowed Rambus to avoid FRAND commitments, and consequently charge allegedly excessive royalties. Some commentators suggested that the SEP owner's deceptive conduct might not only hinder the success of the standardization process, by diminishing the manufacturers' incentives to produce good in compliance with the standard, but also decrease the undertakings' interest in participating in further standardization activities. By undermining the success of standards and of the standardization process, the SEP owner's deceptive conduct could in turn deprive consumers of the benefits brought by standardization.[264]

4.3 Strategic Licensing: Exclusionary and Exploitative Conducts in the Product Market (Ex-Post)

Strategic licensing describe the shift of bargaining power that occurs in favor of the patent holder when licensing negotiations happens ex-post, that is after the patent user has already sunk irreversible costs in the infringing activity.[265] This concept involves the strategic use of a patent that reads on a relatively small-value component of a multi-component end product to extract ex-post rents that are disproportionate to the ex-ante value of the invention in comparison with the next-best available alternative.[266]

4.3.1 Types of Strategic Licensing Conducts

Once a patented technology becomes essential for the standard, the SEP owner becomes an unavoidable trading party for all manufacturers of standard compliances goods. The position the SEP owner obtains after the implementation of its patented technology in a standard might open the possibility of opportunistic licensing practices.

In the SSO framework, the issue arises when a SEP holder has made a commitment to license on FRAND terms and then refuse to license, request an excessive price or seeks to use injunctive relief, as leverage in negotiations to obtain an unjustifiably higher royalty than would have been possible ex-ante.[267] The strategy rests on the patent owner's ability to impedes or hinder the distribution of the end product, or ask for a royalty rate not according to the value of the patent, after the costs of

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[264] Id. at 80.

[265] See Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSPECT. 29 (1991), https://www.aeaweb.org/articles?id=10.1257/jep.5.1.29 (last visited Feb 9, 2017).

[266] Cotter, note 123 at 59.

[267] Wong-Ervin, note 124 at 11.

designing, producing, and distributing the end-product have been sunk.[268]

The threat of hold-up arises from the apparent difficulty and expense of switching to a different technology once a standard is adopted.[269] Allegedly, this lock-in confers market power on the owners of the incorporated patents, which may seek to take advantage by engaging in the holdup.[270]

4.3.2 Strategic Licensing Consequences

Hold-up and the threat of hold-up may cause problems such as deter innovation by increasing costs and uncertainty for other industry participants, including other patent holders.[271] Hold-up induces users to postpone or avoid incorporating standardized technology in their products[272]; slow adoption of new standards or reduce the royalties other SEP owners earn because the standard is not widely adopted as anticipated; harm to consumers in the form of higher prices and undermines the confidence in standards and the standardization process.[273]

4.4 Chapter Summary

SEP licensing open the door for two types of opportunistic practices: patent ambush and strategic licensing.

A patent ambush occurs ex-ante and prevents competition in the technology market, while strategic licensing occurs ex-post and inhibit competition in the product market. Both conducts preclude competition from being merit based and could lead to the adoption of suboptimal standards, threatening the whole standardization process by making producers reluctant to incorporate standardized technology into their products leading to suboptimal innovation, lower quality products and lower royalties' rates for another SEP.

The hold-up concept in the context of standardization has been a mainly theoretical construction,

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[268] Cotter, note 123 at 59.

[269] See e.g. Microsoft Corp. v. Motorola, Inc. (W.D. Wash), LEXIS 60233 WL 2111217, **10-11 (2013); U.S. Dep't of Justice and United States Patent & Trademark Office (USPTO), note 243 at 4.

[270] Wong-Ervin, note 124 at 11.

[271] Fed. Trade Comm'n, note 49 at 234; U.S. Dep't of Justice and Fed. Trade Comm'n, note 10 at 36.

[272] See e.g. U.S. Dep't of Justice and United States Patent & Trademark Office (USPTO), note 243 at 4; MICROSOFT CORP. V. MOTOROLA, INC. (W.D. WASH), note 269 at **10-11.

[273] Wong-Ervin, note 124 at 11; See Robert Bosch GmbH (Majority Statement), FTC Docket C-4377 Apr 24 2013, 1–2 (2013) [Quoting Third Party FTC's Statement on the Public Interest filed on June 6, 2012 in In re Certain Wireless Communication Devices, Portable Music & Data Processing Devices, Computers and Components Thereof, Inv. No. 337-TA-745; and in In re Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof, Inv. No. 337-TA-752].

therefore; the actual magnitude of this problem remains questionable in the absence of empirical evidence. For example, the type of ex-post licensing negotiations that could generate a risk of hold-up is common practice in ICT, as opposed to other sectors. It is, therefore, necessary to establish what is a hold-up as opposed to normal licensing practices and whether these criteria differ in the case of standard-essential patents.

Against these arguments, some pundits stated that it is important to make a critical re-assessment of the hold-up debate. These experts advocate that circumstantial evidence is sufficient to prosecute antitrust violations and market-wide statistical/empirical evidence is not required since preventing potential hold-up remains thus a valid policy objective.

5 Chapter 5: Patent Ambush

Regarding deceptive conduct, the US courts, inspired by a more liberal policy, tended to develop a more flexible analysis, while their EU counterparts, more in line with an interventionist approach have expressed greater concerns for abuse in the standard-setting environment.[274]

Importantly, Europe not only bans exclusionary behaviors but it also captures exploitative abuses which lead to unlawful advantage regardless of the competitive structure of the market. This characteristic seems to be one of the main differences between the legal frameworks in the US and the EU.

Another relevant difference between the EU and the US antitrust framework lies in the fact that Article 102 unlike Section 2 of the Sherman Act does not provide for the attempt to monopolize. This feature has led some commentators to argue that patent ambush should not be considered unlawful under EU competition law.[275]

Referring to Private Monopolization, the Japan's IP Guidelines established that under the circumstances in which a product standard has been jointly set up by several entrepreneurs, it may fall under the exclusion of the business activities of other entrepreneurs when the right-holder refuses to grant licenses, after pushing for establishment of that standard, through deceptive means, such as falsification of the licensing conditions, thereby obliging other entrepreneurs to receive a license to use the technology.[276]

Furthermore, regarding unfair trade practices, the guide establishes relevant provisions. When the right-holder to a technology refuses to grant a license to stop other entrepreneurs from using its technology after urging them to use its technology in their business activities through unjustifiable means, such as falsification of licensing conditions, and making it difficult for them to shift to other technology, the conduct creates the status of an infringement on rights and is found to deviate from or run counter to the intents and objectives of the intellectual property systems.[277] Let's review the case load regarding patent ambush.

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[274] Torti, note 10 at 167.

[275] See e.g. Damien Geradin, *Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: A View from Europe*, 76 ANTITRUST LAW J. 329 (2009), http://papers.ssrn.com/abstract=1174922 (last visited Feb 12, 2016); Geradin and Rato, note 11.

[276] JAPAN FAIR TRADE COMMISSION (JFTC), JAPAN GUIDELINES FOR THE USE OF INTELLECTUAL PROPERTY UNDER THE ANTIMONOPOLY ACT 10 Part 3 (1) (i) d (2007).

[277] Id. at 17 Part 4 (2) (ii).

5.1 Patent Ambush Cases in the United States

Section 2 of the Sherman Act applies to all participants in the standardization process, irrespective of their initial level of market power. The language of section 2 makes clear that it is unlawful for any person to monopolize, or attempt to monopolize the market.[278] No matter how small may be the defendant's power at the time of the anticompetitive conduct, it violates section 2 if monopoly power results from the conduct or would probably arise from it.[279] The main issue would not be the SEP owner market power but if market power is obtained due to an anti-competitive action.

US antitrust law thus recognizes that particular type of conducts might impose anticompetitive effects even if employed by an undertaking with little market power. Although an undertaking with little market power often lacks the ability to render the monopolizing strategy successful, there are circumstances in which its conduct might result in a successful monopolization.[280]

In the standardization context, due to its strong networks effects, the deceptive behavior of an undertaking with little market power might still be a successful monopolization strategy. What matters for antitrust evaluation is therefore not the SEP owner's level of market power at the time of deception, but rather the evaluation whether the deceptive conduct, coupled with the position of the SEP owner, leads (or would result) to the acquisition of monopoly power.[281]

This analysis uses the first principles approach applied to antitrust. The first principles approach centers on an examination of the competitive effects of the conduct at issue. This method is appropriate because the competitive effect is the actual core of antitrust. Although market power and market definition have a role in antitrust analysis, their proper roles are as parts of and about the initial evaluation of the alleged anticompetitive conduct and its likely market effects.[282]

In the case of a section 5 violation, the determination that conduct constitutes an unfair method of competition must a have reasonable basis in law. None of the past cases brought by the FTC have determined whether, and under what conditions the SEP owner deceptive conduct constitute a stand-alone violation of section 5. It remains consequently unclear whether a SEP owner's deceptive practice can trigger liability under Section 5, despite not meeting the elements of the section 2

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[278] United States' Sherman Act, note 82 at § 2 § 1-7, § 2.

[279] Hovenkamp et al., note 134.

[280] See Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp., 382 U.S. 172 (1965).

[281] Hovenkamp et al., note 134 at 332.

[282] See Steven C. Salop, *The First Principles Approach to Antitrust, Kodak, and Antitrust at the Millennium*, 68 ANTITRUST LAW J. 187, 188 (2000), https://papers.ssrn.com/abstract=195490. (last visited Apr 7, 2017).

violation. The analysis suggests that even when the SEP owner 's conduct should be considered unfair; the FTC would have to prove an adverse effect on competition to show a violation of section 5.[283]

5.1.1 Case Union Oil Company of California (Unocal)

A violation of Section 5 of the FTC was alleged in Unocal in which the company adopted a misleading behavior against the California Air Resources Board (CARB) and the other participants by affirming that its emissions research results were not covered by any rights but were in the public domain.[284] In other words, Unocal did not disclose that it had pending patent claims on these research results and did not reveal its intention to enforce the proprietary interests. The behavior led to the acquisition of market power illegitimately.[285]

Complaint counsel alleged that Unocal misrepresentations harmed competition and led directly to its acquisition of monopoly power for the technology to produce and supply California RFG. This actions allegedly also permitted Unocal to undermine competition and harm consumers in the downstream product market for RFG. In the absence of Unocal's fraud, the FTC asserted, either CARB would not have adopted RFG regulations that substantially overlapped with Unocal's patent claims (as proved to be the case), or the terms in which Unocal was later able to enforce its proprietary interests would have substantially different or both.[286]

As exposed, Unocal enforcement of its patent portfolio would have caused substantial consumer injury.[287] Companies producing CARB gasoline would have been required to pay royalties to the firm, the bulk of which would have been later passed to the consumer in the forms of wild gasoline price fluctuations and supply uncertainties.[288]

5.1.2 Broadcom Corp. v. Qualcomm Inc.

Qualcomm Inc. v. Broadcom Corp illustrates a false commitment to FRAND terms.[289] Here,

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[283] Petrovcic, note 5 at 97.

[284] Union Oil Company of California (UNOCAL), FTC Docket 9305 August 2 2005 (2005).

[285] Id. at § 2.

[286] Naughton and Wolfram, note 196 at 708.

[287] UNOCAL 9305 FTC, note 284 at § § 97-98.

[288] Id. at Statement of the Commission.

[289] Qualcomm 501 F.3d, note 126.

Qualcomm's FRAND commitment was material in the SSO adopting the standard.[290] The Court of Appeals for the Third Circuit held that "in a consensus-oriented private standard-setting environment, a patent holder's intentionally false promise to license essential proprietary technology on [FRAND] terms, coupled with an SSO reliance on that promise when including the technology in a standard, and the patent holder's subsequent breach of that pledge, is actionable anticompetitive conduct."[291]

In a related case, the Federal Circuit found that Qualcomm agreed to disclose patents that "reasonably might be necessary to practice" the standard but deliberately hid them to hold-up implementers by alleging infringement primarily based on compliance with the standard.[292] The court construed an implied waiver by Qualcomm to enforce its rights based on duty to disclose, rendering the patents unenforceable against the implementers.[293]

The Court of Appeal emphasized that a FRAND commitment is a key indicator of the cost of implementing a potential technology, and misrepresentation of the cost may confer an unfair advantage to the patent owner when competing for the implementation of the standard. Qualcomm's false promise induced the SSO to underestimate the cost of the technology, and implement the technology standard. The implementation significantly expanded Qualcomm's market power, given the UMTS standard was largely adopted by the market. Qualcomm did not obtain market power, as a consequence of the superiority or its product, business acumen, or historical accident, but because of the false commitment. The Court of Appeals thus concluded that the deceptive conduct enabled Qualcomm to unlawfully obtain market power and constituted an act of monopolization in violation of section 2 of the Sherman Act.[294] Deceptive conduct which hides the level of royalties a participant intends to charge may harm the competitive process no less than deceptive nondisclosure of IPR.[295]

5.1.3 Case Rambus Inc.

The Commission filed an administrative complaint against Rambus for unfair methods of competition and unfair or deceptive acts or practices under Section 5 of the FTC Act. The complaint initially dismissed by an administrative law judge led the authority to condemn Rambus in a 2006 decision,

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[290] Id.

[291] Id. at 314.

[292] Qualcomm 548 F.3d, note 163.

[293] Lim, note 260 at 228.

[294] Petrovcic, note 5 at 90.

[295] Qualcomm 501 F.3d, note 126.

which eventually limited the theory of liability under section 2 of the Sherman Act.[296] The FTC decision, however, was finally overturned two years later by the US Court of Appeals, which sided with Rambus in holding that the behavior constituted neither monopolization nor attempted monopolization.[297] Let's review the main features of this seminal case.

5.1.3.1 Alleged SEP Owner Deceptive Conduct

According to the Commission, Rambus deceptive conduct consisted of hiding the existence of both issued and pending essential patents applications and led the company to manipulate and otherwise open-standard, pro-competitive and objective process. This action conferred on Rambus monopoly power and the opportunity to harm competition and consumers.[298]

The FTC suggested that had Rambus disclosed its patents two scenarios could arise:

- Alternative technologies would be implemented in the JEDEC's standards; or
- If alternatives were not available, JEDEC would still implement Rambus' technology, but it would demand Rambus to commit to license its patents under FRAND terms.[299]

5.1.3.2 Reversal Decision (Lack of Causation)

The D.C. Circuit confirmed that the first scenario represented an anti-competitive acquisition of market power. It, however, emphasized that the FTC fail to provide sufficient evidence to show that the first scenario occurred in practice. Rather the contrary: the FTC explicitly stated that there was insufficient proof that JEDEC would have utilized other technologies had it known the full scope of Rambus' patent rights.[300]

The second scenario was also plausible, however, did not constitute an anti-competitive act. To be considered anti-competitive, the conduct must harm the competitive process. However, Rambus conduct did not harm the competitive process if JEDEC would have selected Rambus' technology even in the absence of deception.[301] Rambus deceptive conduct had no particular tendency to

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[296] Rambus Inc, FTC Docket C-9302 August 2 2006 (2006).

[297] Rambus II 522 F.3d, note 75.

[298] RAMBUS C-9302 FTC, note 296.

[299] Petrovcic, note 5 at 90.

[300] Rambus II 522 F.3d, note 75 at 456.

[301] Id. at 467.

exclude and thus to diminish competition.[302] There was no evidence that competitive technologies existed at all. Given that the second scenario did not constitute anticompetitive conduct, the D.C. Circuit concluded that the FTC failed to prove that Rambus deception harmed competition and thus constituted an anti-competitive conduct. Further, the D.C. Circuit emphasized that deceptive conduct that merely allows the company to charge higher prices fall outside the domain of the Sherman Act.[303]

The ruling has been heavily criticized.[304] Some commentators maintained that a deception that allows the SEP owner to avoid a FRAND commitment should constitute an anti-competitive acquisition of market power.[305] They pointed out that market power is defined as the ability to exclude rivals from the marketplace and capacity to control prices. A FRAND commitment constraints the SEP owner's ability to control the price of its SEP; the illegitimate avoidance of a FRAND commitment should thus constitute an anti-competitive acquisition of market power. Some commentators, also argued that the failure to punish conduct like that could have detrimental effects for the standardization, for example by discouraging industry members from participating in standardization activities.[306]

5.1.3.3 Anticompetitive Effects

Courts have recognized that the SEP owner's deceptive conduct during the standardization process can provide the basis for a section 2 liability.[307] Nevertheless, proving only a deceptive act is not sufficient. A bad, malicious conduct does not constitute a violation of section 2 if it does not harm competition in the market. It is not enough to prove that the deception allowed the SEP owner to avoid a FRAND commitment or charge higher prices. To bring a successful section 2 claim, the plaintiff needs to prove that the deception allowed the SEP owner to acquire market power in an

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[302] Id. at 466.

[303] Id. at 359.

[304] Farrell et al., note 21 at 653; See e.g. Cary et al., note 34; Dagen, note 20.

[305] See e.g. George S. Cary, SHERMAN ACT SECTION 2 JOINT HEARING: UNDERSTANDING SINGLE- FIRM BEHAVIOR (CARY STATEMENT) 69 (2006), https://www.ftc.gov/sites/default/files/documents/public_events/section-2-sherman-act-single-firm-conduct-related-competition/061206.pdf (last visited May 13, 2016).

[306] see e.g. David Dorth, *The Rambus Shell Game: A Lack of Integrity In the Standards Setting Process*, 3 JOHN MARSHALL REV. INTELLECT. PROP. LAW 138 (2003), http://repository.jmls.edu/ripl/vol3/iss1/8 (last visited May 18, 2016).

[307] Herbert J. Hovenkamp, *Patent Deception in Standard Setting: The Case for Antitrust Policy*, U IOWA LEG. STUD. RES. PAP. UNPUBL. (2013), http://papers.ssrn.com/abstract=1138002 (last visited May 24, 2016).

anti-competitive way.[308]

Showing that the SEP owner's deceptive behavior led to the anticompetitive acquisition of monopoly power requires proof of several facts, as follows:

- The technology in question would be included in the standards (and no market power would be acquired), but for the deception.[309] If alternative technologies existed, the plaintiff needs to show that in the absence of the deceptive conduct alternatives would be implemented in the standard. On the contrary, if there were no alternatives to the technology, the plaintiff needs to prove that the SSO would not include the technology in the standard in the absence of deception.[310]

- The deceptive behavior allowed the SEP owner to acquire market power. As explained before, the implementation of technology in the standard does not necessarily confer to the SEP owner the level of market power leading to dominance or monopoly.

- A claim requires evidence of the SEP owner's anticompetitive intent. Although there is no need to prove the SEP owner's subjective intent, it would be nonetheless difficult to bring a successful action where the SEP owner shows that the failure to disclose the patent was unintentional.[311]

Additionally, the court also expressed its grave concern about the strength of the evidence relied on to support some of the Commission findings.[312] It was held, in this context that JEDEC disclosure rules suffered from a staggering lack of defining rules.[313] The ambiguity, in particular, regarded the duty to disclose both issued or pending patent applications and unfilled work in progress on potential amendments to those patent applications. Based on these observations, the court held that the commission had taken an aggressive interpretation of rather weak evidence.[314] It thus notably

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[308] Petrovcic, note 5 at 92.

[309] Townshend v. Rockwell Intl. Corp., WL 433505 (2000) (In order to establish anticompetitive conduct, the plaintiff must show that the patent holder's failure to disclose its intellectual property rights induced the SSO to set the standard incorporating the essential patent).

[310] Qualcomm 501 F.3d, note 126 at 316.

[311] See PETROVCIC, note 5 at 92; See also Hovenkamp, note 307.

[312] Rambus II 522 F.3d, note 75 at 19.

[313] Id. at 22.; See also Rambus Inc. v. Infineon Techs., 318 F.3d 1081 (2003).

[314] See FTC v. Rambus Inc., 555 US 1171, 1194 (2009).

recognized the need to rely on clearer regulations, to avoid the risk of ambiguous duties for SSO members. The uncertainty on policy rules could discourage the participation of patentee in SSO and could lead to an inefficient outcome of the whole standardization process. From the court's comments, it follows that it could be harder to prove deception without reference to clear provisions.[315]

The approach adopted by the tribunals was not uncontroversial. Some commentators argued that the courts should apply a more lenient causation requirement between the SEP owner's deceptive conduct and the acquisition of market power. For example, it should be sufficient to show that the conduct reasonably appears capable of creating or maintaining a monopoly, without however the need to prove that the deception has such effect in practice.[316] Unlike other practices such as predatory pricing or tying the SEP owner's deceptive conduct has no procompetitive potential, and there is consequently a lower risk that a strict application of Section 2 will unduly chill pro-competitive conduct.[317]

Nevertheless, several arguments support the maintenance of a strict causation requirement. A strict causation requirement is in line with the principle that, when addressing the conduct of undertakings with the little level of market power at the time of deception, there is a stronger need to prove causation between the challenged act and the acquisition of market power.[318] Also, the approach is also in line with the principle that fraudulent, misleading practices should be considered a section 2 violation only when there is clear evidence of anticompetitive effect.[319]

5.1.4 Case Dell Computer Corporation

Dell Computer Corp illustrates the first type of ambush.[320] The commission established that the

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[315] Torti, note 10 at 146.

[316] PETROVCIC, note 5 at 93; Dagen, note 20 at 1491.

[317] Petrovcic, note 5 at 93; Dagen, note 20 at 1491.

[318] Hovenkamp et al., note 134 at 332 (Evidence of causation is crucial when dealing with a defendant who lack monopoly power at the time of their anticompetitive behavior. Even for a conduct that would be clearly called exclusionary for a firm with substantial market power, it should be deemed exclusionary for a firm that later achieves such power only when we may reasonably conclude that the conduct made a significant contribution of the subsequent acquired power. If there is any substantial doubts whether conduct would have sufficiently significant anticompetitive effect to be called exclusionary for firm possessing substantive market power, that conduct should not be deemed exclusionary for a firm lacking power at the time when it acted.).

[319] PETROVCIC, note 5 at 94; HOVENKAMP ET AL., note 134 at 321; See also Joshua D. Wright, *Why the Supreme Court Was Correct to Deny Certiorari in FTC v. Rambus*, 3 ANTITRUST CHRON. COMPET. POLICY INT. (2009), https://papers.ssrn.com/abstract=1349969 (last visited Apr 6, 2017) (The timing of acquisition of market power becomes significant. Did market power come before or after the allegedly actionable deceptive conduct); See Nynex Corp. v. Discon, 525 U.S. 128 (1998).

[320] Dell Computer Corp., FTC Docket C-3658 May 20 1996 (1996).

existence of potential harm to consumers justified enforcement action under section 5. Dell failed to disclose its patent and twice affirmed that it had no relevant patents before suing SSO members. The Federal Trade Commission (FTC) intervened, resulting in a consent decree where Dell agreed not to sue implementers.[321] The FTC alleged that the practice constituted unfair competition in violation of Section 5 of the FTC Act. The company was deemed guilty of false representation towards the Video Electronics Standards Association (VESA), an SSO comprising computer hardware and software manufacturers.

The Commission in its decision established that there was evidence that VESA would have implemented a different non-proprietary design had Dell disclosed its rights, due to its strong preference for standards not based on proprietary technology. Therefore, Dell acquisition of market power was not inevitable, due to the existence of equally effective non-proprietary standards that were competing in the selection process.[322]

The remedy was consistent with the equitable estoppel doctrine according to which courts should preclude IPR owners from enforcing those patents which have not been disclosed by them.[323] According to the FTC, Dell behavior conferred market power, unreasonably restrained competition and harmed the IT industry by discouraging undertakings from manufacturing products based on the relevant standard. Also, by raising the costs of standardization, the conduct reduced the willingness to participate to SSO.[324]

Regarding a duty to search the commission established that such obligation may only be deemed to exist where a standard setting body explicitly sets its provisions it that direction. Clear policy rules are needed to set out any specific duty. Also, it is important to establish the role of intent and the difference between intentionally non-disclosure and negligence non-disclosure.[325]

5.1.5 Negotiated Data Solutions (Don't Comply with previous owner promise)

The FTC brought a complaint against N-Data regarding the repudiation of royalty commitments

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[321] Lim, note 260 at 228.

[322] See DELL COMPUTER C-3658 FTC, note 320; TORTI, note 10 at 130.

[323] USLegal, EQUITABLE ESTOPPEL DOCTRINE USLEGAL (2015), http://definitions.uslegal.com/e/equitable-estoppel/ (last visited Feb 8, 2017) (Equitable estoppel is a defensive doctrine preventing one party from taking unfair advantage of another when, through false language or conduct, the person to be estopped has induced another person to act in a certain way, which resulted in the other person being injured in some way. This doctrine is founded on principles of fraud. It prevents one party from taking a different position at trial than s/he did at an earlier time if the other party would be harmed by the change).

[324] See DELL COMPUTER C-3658 FTC, note 320 at 624; TORTI, note 10.

[325] Torti, note 10 at 132.

made by an earlier owner of the patents. The FTC alleged the SSO had relied on the commitments undertaken by the patent holder in establishing the standard.[326]

The technology was included in a standard in part due to the owner's offer to license its technology for a one-time, limited royalty. After the standard had been widely adopted, such that there were no commercially viable alternative technologies, the related patents were sold to another party. The second patent holder sought to change the terms of the licensing commitment, to increase the prices charged to companies that had implemented the standard, through conduct that involved demands and threatened legal action.[327] N-Data then became the subsequent owner of the patents, at which point the FTC raised its concerns.

The FTC claimed the threat or actual anticompetitive effects of the conduct included increased royalties and prices for products implementing the standard and reduced incentives to produce those products; participate in standard-setting, and rely on standards established by SSOs more generally.[328]

The majority of the FTC found the conduct to be an unfair method of competition and an unfair act or practice in violation of Section 5 of the FTC Act. A settlement was reached under which N-Data agreed to honor the licensing commitments made by the predecessor owner and any commitments that N-Data might make to SSO in future.[329] A dissenting FTC Commissioner opinion characterized the N-Data case as a real departure from the prior line of SSO cases brought by the FTC, which was grounded in deceptive conduct in the standard-setting context that led to or was likely to lead to, anti-competitive effects.[330]

5.2 Patent Ambush Cases in Europe

In the EU, there is so far, no formal decision determining the SEP owner's liability for a patent ambush, false FRAND commitments, or other deceptive practices that might arise during the standardization process. The commission's approach adopted in the Rambus cases suggest that such practices could

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[326] John Thomas Rosch, SECTION 2 AND STANDARD SETTING: RAMBUS, N-DATA & THE ROLE OF CAUSATION (2008), https://www.ftc.gov/public-statements/2008/10/section-2-and-standard-setting-rambus-n-data-role-causation (last visited May 13, 2016).

[327] Negotiated Data Solutions LLC (FTC Consent Agreement), , 31 (2008).

[328] Id. at 37.

[329] Id. at 37.

[330] NEGOTIATED DATA C-4224 FTC, note 327 (Dissenting Statement of Chairman Majoras); See also Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*, 5 J. COMPET. LAW ECON. 469 (2009), http://papers.ssrn.com/abstract=1143602 (last visited Jun 3, 2015).

constitute an abuse behavior in violation of Article 102 TFEU.[331] A detailed analysis nonetheless unveils the opposite result: the SEP owners' deceptive practices would lead to an antitrust liability only in limited circumstances. The legal analysis requires the distinction between two groups of participants of the standardization process:

- SEP owners that have a dominant position since the beginning of the standardization procedure, and
- SEP owners that have low market power at the start of the standardization process, but acquire market power as a result of the implementation of their technology in the standard.[332]

Article 102 applied to a SEP owner that is dominant at the time of deception. Despite the absence of legal precedents in the context of SEP, doctrines developed in other areas suggest that the SEP owner's deceptive conduct during the standardization process can constitute an abuse of a dominant position in violation of Article 102 TFEU.[333] Let's analyze the behavior thru two cases: Astra Zeneca and Rambus representing the two sets of facts described above.

5.2.1 Case Astra Zeneca

The Astra Zeneca judgment provides valuable guidance in the evaluation of the SEP owner's deceptive conduct.[334] The Commission condemned under Article 102 TFEU the deceptive behavior of Astra Zeneca, a pharmaceutical group dominant in the market. In particular, Astra Zeneca (1) made misleading representations before the patent offices and national courts of several members states when applying for additional patent protection certificates, and (2) deregistered its drug marketing authorizations in some members' states. The commission maintained that the first conduct allowed Astra Zeneca to obtain (or maintain) supplementary protection certificates, for which Astra Zeneca was not entitled or to which it was entitled to a shorter duration. The deceptive behavior allowed Astra Zeneca to keep manufacturers of generic products away from the market. Similarly, the deregistration of the marketing authorization aimed to ensure that the registration would not be available to Astra Zeneca competitors (producers of generic drugs) and it would thus keep them out of the market after patent expiration (at least for some time).[335]

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[331] Commission Decision Summary 2010/C 30/09 (Case COMP 38636 Rambus), 2010 OJ C 30 (2009).

[332] Petrovcic, note 5 at 81.

[333] Id. at 81.

[334] Case C-457/10 AstraZeneca, note 109.

[335] PETROVCIC, note 5 at 81; See GEORGE ADDY & ERIKA DOUGLAS, TROLLS, HOPPING, AMBUSH AND HOLD-UP: EMERGING

5.2.1.1 Commission and General Court Rulings (Lack of Competition on the Merits)

The Commission found that the two deceptive practices constituted an abuse of a dominant position in violation of Article 102 TFEU, and the General Court later confirmed the decision. The General Court emphasized that Article 102 prohibit a dominant undertaking from eliminating a competitor and thereby straightening its position by using methods other than those which come within the scope of competition on the merits.[336] The General Court maintained that Astra Zeneca deceptive conduct did not represent competition on the merits and did not comply with the special responsibility of a dominant undertaking to abstain from any conduct that impairs undistorted competition in the market. It thus concluded that Astra Zeneca conduct amounted to an abusive behavior in violation of Article 102 TFEU.[337]

5.2.1.2 Court of Justice Ruling I (Anticompetitive Effects)

AstraZeneca appealed the decision, arguing, among other things, that the General Court adopted a legally flawed approach to the concept of competition on the merits. Several commentators criticized the ruling pointing out that the adopted approach suggests any objectively misleading statement to the patent office would amount to an abuse of a dominant position.[338] Even a genuine and honest error made by a dominant company in the context of a patent application process would amount to abuse.[339]

The Court of Justice rejected AstraZeneca's appeal by adopting, nonetheless, a narrower definition of competition on the merits, agreeing that a misleading practice, even if undertaking by a dominant firm, does not per se constitute an abusive behavior. It emphasized that dominant undertakings not need to be infallible.[340] The ECJ nevertheless stressed that a deceptive conduct might amount to abuse if it leads to anticompetitive effects. The court found that Astra Zeneca deception had such effects. The misleading statements induced public authorities to grant an exclusive right to which Astra Zeneca was not allowed. In this way, the Astra Zeneca deceptive conduct raised regulatory obstacles

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INTERNATIONAL APPROACHES TO THE INTERSECTION OF COMPETITION AND PATENT LAW REGIMES (2014), https://www.dwpv.com/~/media/Files/PDF_EN/2014-2007/IP_Report.ashx (last visited May 1, 2017); Gavin Bushell, CASE C-457/10 P, ASTRAZENECA V COMMISSION KLUWER COMPETITION LAW BLOG (2012), http://kluwercompetitionlawblog.com/2012/12/07/case-c-45710-p-astrazeneca-v-commission-judgment-of-6-december-2012/ (last visited Feb 10, 2015).

[336] Case T-321/05 AstraZeneca AB & AstraZeneca plc v. Comm'n, 2010 ECR II 2805, 354 (2010).

[337] Id. at 354, 355, 361, 811–817.

[338] Bushell, note 335.

[339] Petrovcic, note 5 at 82.

[340] Case C-457/10 AstraZeneca, note 109 at 99.

to competition.[341] The ECJ also noted that there was no legitimate justification for Astra Zeneca's de-registration, and the conduct only aimed at preventing, or making more difficult, the entrance of competing generic drugs into the market.[342]

Although the circumstances of the Astra Zeneca case differed considerably from the one on the SEP context, the judgment bears significant implications for the SEP owners liability. A dominant SEP owner has, like any other dominant undertaking, a duty to abstain from any conduct that impairs undistorted competition in the market. The SEP owner's deceptive conduct does not comply with such responsibility. The Astra Zeneca judgment nonetheless clarifies that a deception does not lead alone to antitrust liability. An evil act is not considered abusive simply because undertaken by a dominant SEP owner. The SEP owner's deceptive behavior would constitute an abuse only if it imposes anti-competitive effects on the market, such as the exclusion of competing technologies from the standard. The Astra Zeneca judgment suggests that the competition authority needs to prove both the existence of an evil act and the presence of anticompetitive effects, to demonstrate the SEP owner's deceptive behavior.[343]

5.2.1.3 Court of Justice Ruling II (Standard of Proof)

A separate question concerns the relevant standard of evidence that the commission would have to meet to show that the SEP owner's deception amounts to a violation of Article 102 TFEU:

- Does the Commission have to prove that the SEP owner's deception amounts to a breach of Article 102 TFEU?
- Does the commission have to prove that the SEP owner's deceptive behavior excluded competing technologies from the standard?
- Would it be sufficient for the Commission to assert that the deceptive conduct could have had anticompetitive effects, without however showing that such effects have arisen in the specific cases?[344]

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[341] Id. at 105–106.

[342] Id. at 117.

[343] PETROVCIC, note 5 at 83; ADDY AND DOUGLAS, note 335; Romano Subiotto Qc & David R. Little, *The Application of Article 102 TFEU by the European Commission and the European Courts*, 4 J. EUR. COMPET. LAW PRACT. 255 (2013), http://jeclap.oxfordjournals.org/content/4/3/255 (last visited Mar 26, 2015).

[344] Petrovcic, note 5 at 83.

The ECJ maintained in several occasions that to prove that certain conduct is anticompetitive, the Commission does not need to show that the anticompetitive effect is concrete, but it is sufficient to demonstrate that there is a potential for such anti-competitive conduct.[345]

The ECJ has allowed the Commission to condemn conducts even in the absence of evidence of anticompetitive effects because there was a risk that the alleged conduct would lead to an anti-competitive offense unless aborted. If the commission has to wait for the anticompetitive effects to arise in practice, the antitrust intervention would be obsolete.[346]

Also, is worth noting that under EU law, the SEP owner's liability could also occur in the absence of an anticompetitive intent. The concept of abuse is an objective concept and does not require evidence of intent.[347] Under this scenario, Article 102 TFEU could condemn cases where the SEP owners unintentionally failed to disclose a patent during the standardization process. The prosecution of such cases seems nonetheless not desirable from a policy perspective. Under this scenario, the antitrust enforcement could deter participation in the standardization process and thus harm exactly the process that it aims to preserve. Policy considerations hence suggest that although 102 TFEEU could also be applied to cases of an unintentional failure to disclose relevant patent, it is appropriate to limit the intervention to cases where the SEP owner's deceptive practice is intentional.[348]

5.2.2 Case Rambus

Like the U.S., the EC brought a case against Rambus alleging patent ambush. The EC's preliminary view was that Rambus had abused its dominant position by claiming unreasonable royalties for the licensing of certain patents that read on standards.

The EC alleged Rambus had intentionally failed to disclose the patents it held and later claimed those patents read on the standard which had been adopted.[349] The EC considered this a breach of the relevant SSO's policy, and also of a duty of good faith in the context of standard-setting. In the absence of such deception, the EC was of the view that Rambus would not have been able to obtain the royalty rates it claimed. The EC considered such conduct to undermine industry confidence in the standard-setting process, to the detriment of consumers. The SSO was U.S.- based, but the conduct

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[345] Case C-52/09 Konkurrensverket v TeliaSonera Sverige AB, 2011 ECR I 527, 64 (2011).

[346] Petrovcic, note 5 at 84.

[347] CASE T-321/05 ASTRAZENECA, note 336 at 356; CASE 85/76 HOFFMAN LA-ROCHE, note 81 at 91.

[348] Petrovcic, note 5 at 85.

[349] CASE COMP 38636 RAMBUS O.J. C 30 2009, note 331.

was deemed to have an effect in the EU. It is not illegal in the EU to obtain market power through unlawful means. Therefore, the alleged violation of Article 102 by Rambus centered on the company charging unreasonable royalties for its patents after it had obtained market power, in contrast to the unlawful acquisition of monopoly power that formed the central allegation in the U.S. Rambus case.[350]

The EU case was resolved by Rambus committing to a worldwide maximum percentage on its royalty rates for products compliant with the standards for five years, including specified later generations of the technology.[351] The commitments indicate that the obligations are not impacted by the sale of patents to a third party.[352]

In this case, the main legal features emerging from the ruling are the content and clarity of the SSO policies, the abusive conduct of Rambus and the alleged existence of a good faith duty.[353]

5.2.2.1 SSO IP Rules and Good Faith

First, regarding the SSO rules, the problem lay in the clarity and awareness of the policy by its members. Indeed, it seems that JEDEC principles had not been properly revealed and explained to the participants. Furthermore, JEDEC language on disclosure policy had been interpreted as broad and amorphous.[354] This view, supported by the different US courts, was not endorsed by the EU Commission which did not doubt the clarity of the rules. Also, it seems that the EU competition enforcement also relied on the existence of a general covenant of good faith to which SSO members would be subjected. Such a duty would impose an obligation of fair dealing towards the other members in identifying and disclosing essential rights, regardless of the letter of the policy.[355]

The effectiveness of a general duty to of good faith is doubtful. Even tough standards institutes must rely on a high level of cooperation between the participants to develop their projects, the first step to ensuring the fairness and transparency of the process should be the enforcement of robust regulations.

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[350] Damien Geradin, *The European Commission Policy Towards the Licensing of Standard-Essential Patents: Where Do We Stand?*, 9 J. COMPET. LAW ECON. 1125, 1131 (2013), http://jcle.oxfordjournals.org/content/9/4/1125 (last visited May 30, 2016).

[351] CASE COMP 38636 RAMBUS O.J. C 30 2009, note 331.

[352] Id.

[353] *Id.*; See Anna Emanuelson, *Standardisation Agreements in the Context of The New Horizontal Guidelines*, 33 EUR. COMPET. LAW REV. 69 (2012), http://www.worldcat.org/title/standardisation-agreements-in-the-context-of-the-new-horizontal-guidelines/oclc/847422463 (last visited May 18, 2016).

[354] RAMBUS INC 318 F.3D, note 313 at 1097.

[355] Torti, note 10 at 171.

Ambiguous policies lead to misleading the participants to the specific duties expected to fulfill.[356]

In light of these arguments, it seems that the EU commission undervalued the importance of clear policy rules for SSO. Even in the case, a general good faith covenant was admitted in standardization; this should not replace the need for robust guidelines.[357]

5.2.2.2 SEP Owner Anticompetitive Conduct

Rambus was deemed to have abused its dominant position and to have infringed Article 102 TFEU by hindering the SSO process and by subsequently charging excessive prices. The conduct was not only interpreted as exploitative but also as exclusionary, due to the alleged exclusion of potential alternatives to the standard ultimately adopted.[358]

The complainants' position recalled the principle that exercise of an exclusive right by the owner may, in exceptional circumstances involve abusive conduct.[359] A dominant firm, is well known, cannot be deprived of the right to protect its commercial interest. However, the behavior cannot be allowed when its actual purpose is to strength the dominant position and abuse it.[360] This principle was considered applicable to Rambus strength and to its attempt to obtain legal protection for the overexploitation of its rights.[361]

The argument could be, in theory, reconciled with the view expressed by the Court of First Instance in Promedia stating that access to the court is a fundamental right been only in the exceptional circumstances that bringing legal proceedings constitute an abuse of a dominant position.[362]

In the attempt to legitimize Rambus's conduct, some authors even noted that the EU competition framework does not prohibit the attempt to monopolize.[363] Members withholding rights in the standard-setting context cannot be said to be in a dominant position. IPR alone does not confer such

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[356] *Id.* at 171.; See Robert Skitol, *Concerted buying power: Its potential for addressing the patent holdup problem in standard setting*, 72 ANTITRUST LAW J. 727 (2005), http://www.jstor.org/stable/40843640 (last visited Jan 31, 2017).

[357] Torti, note 10 at 171.

[358] Id. at 172.

[359] See Case C-481/01 IMS Health GmbH & Co. OHG v. NDC Health GmbH & Co. KG (IMS Health), 2004 ECR I 5039, 35 (2004).

[360] Case 27/76 United Brands, note 13 at 189.

[361] See Case T-111/96 - ITT Promedia v. Comm'n, 1998 ECR II 183 (1998).

[362] *Id.*; See Nicolas Petit, *Injunctions for Frand-Pledged Standard Essential Patents: The Quest for an Appropriate Test of Abuse Under Article 102 TFEU*, 9 EUR. COMPET. J. 677 (2013), http://papers.ssrn.com/abstract=2371192 (last visited Apr 23, 2015).

[363] Geradin and Rato, note 11 at 160.

a status. Only after the adoption of a standard by the SSO and the subsequent implementation by the industry, may the IPR owners be held to be dominant in the market of standardization technology.[364]

The EU Commission seems to have considered the company's conduct as both exploitative and exclusionary. However, the existence of exclusionary effects was not certain, due to the possibility that JEDEC could have adopted Rambus technology in any event.[365]

5.2.2.3 Abuse of a Non-Dominant Position

The absence of a dominant position at the time of deception prevents the application of Article 102 TFEU to the SEP owner's deceptive conduct.[366] A non-dominant undertaking does not have the particular responsibility under Article 102 to abstain from conducts that impair undistorted competition in the market. As a result, Article 102 TFEU does not apply to the deceptive behavior of a SEP owner that was not dominant at the time of deception.[367]

An antitrust liability can only arise if, after the implementation of the standard, and the consequent obtainment of a dominant position, the SEP owner engages in an abusive practice. In the Rambus case, for example, the Commission maintained that Rambus abused its dominant position by claiming unreasonable royalties after a patent ambush.[368] It is nonetheless important to notice that the abusive conduct lays in the imposition of excessive royalties, and not in the patent ambush itself. A patent ambush only facilitates the abusive behavior, which occurred later on, when Rambus had a dominant position.[369]

The mere deceptive practice of a non-dominant SEP owner, without a subsequent abuse, falls outside the domain of Article 102 TFEU. Given the majority of participants in the standardization process are not dominant at the time of deception, it is evident that Article 102 TFEU faces a significant limitation in addressing the deceptive practices. In other words, deceptive practices, during the standardization process would remain largely unpunished under EU competition law.[370]

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[364] Geradin, note 275 at 329.

[365] Torti, note 10 at 177.

[366] See e.g. Dolmans, note 43 at 187; Geradin and Rato, note 11 at 153; Fuchs, note 35.

[367] Petrovcic, note 5 at 85.

[368] See CASE COMP 38636 RAMBUS O.J. C 30 2009, note 331.

[369] Id. at 83.

[370] Petrovcic, note 5 at 86.

The Commission could adopt an approach which recognizes that, when a deceptive act of non-dominant SEP owner allows the company to obtain a dominant position through an anticompetitive practice, the conduct would still fall under the prohibition of Article 102 TFEU. In other words, the Commission could interpret Article 102 TFEU in a way that includes acts of successful monopolization.[371]

An extensive reading of Article 102 is not desirable for several reasons. First, there is a legal argument against the extension of Article 102 TFEU to the conduct of a SEP owner that was not dominant at the time of the deception. None of the established legal doctrines would, in fact, allow the application of Article 102 to a non-dominant company.[372] Second, the extension of Article 102 TFEU to non-dominant SEP owners is not desirable from a policy perspective. It is true that the application of Article 102 would allow the commission to address practices that would otherwise remain unpunished under EU competition law. It is however also true that an extensive reading of Article 102 TFEU does not come without costs. For instance, tailor-made solutions might undermine the consistency in the application of competition law and legal predictability. Furthermore, introducing an exception to the rule that Article 102 TFEU applies only to dominant undertakings might open a Pandora Box for a wider application of Article 102 TFEU outside the context of SEP. Also, the market had shown the ability to adopt mechanisms to mitigate the risk that SSO's participants (including non-dominant one) will engage in deceptive practices. Both SSO and their participants have strong incentives to prevent individual's misconduct.[373] After cases of patent ambush, several SSO has revised their internal regulations to avoid the possible deceptive practices from participants.[374]

5.3 Chapter Summary

The SEP owner's deceptive conduct has triggered anti-competitive concerns both in the EU and in the United States. The analysis has nonetheless shown that the EU competition law and US antitrust laws have very different scopes in addressing the SEP owner's deceptive conduct. US courts, inspired by a more liberal policy, tended to develop a more flexible analysis, while their EU

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[371] Id. at 86.

[372] See e.g. Case C-333/94 Tetra Pak International v. Comm'n, 1996 ECR I 5951, 31 (1996) (The company did hold a dominant position at the time when engaged in the anticompetitive conduct, although the anticompetitive effects arose in a market where the company was not dominant.); CASE 6/72 CONTINENTAL CAN, note 108 at 224 (Article 102 shows that it is not concerned with the creation of dominant positions.).

[373] See e.g Gil Ohana, SHERMAN ACT SECTION 2 JOINT HEARING: UNDERSTANDING SINGLE- FIRM BEHAVIOR (OHANA STATEMENT) 54 (2006), https://www.ftc.gov/sites/default/files/documents/public_events/section-2-sherman-act-single-firm-conduct-related-competition/061206.pdf (last visited May 13, 2016).

[374] Petrovcic, note 5 at 87.

counterparts, more in line with an interventionist approach have expressed greater concerns for abuse in the standard-setting environment.

Furthermore, Europe not only bans exclusionary behaviors but it also captures exploitative abuses. Another relevant difference lies in the fact that Article 102 unlike Section 2 of the Sherman Act does not provide for the attempt to monopolize. Some commentators argue that patent ambush should not be considered unlawful under EU competition law.

Section 2 of the Sherman Act prohibits undertakings to obtain or maintain market power in an anti-competitive manner. Article 102 TEFU is on the other hand less concerned about the way in which companies obtain their market power, but it focuses on the way in which, once obtained, this market power is used. Although this difference did not traditionally play a major role, it becomes particularly relevant in the standardization context.

In Rambus, the US courts recognized that the SEP owner's deceptive conduct during the standardization process could provide the basis for a section 2 liability. Nevertheless, proving only a deceptive act is not sufficient. Harm to competition is necessary. This harm materialized if: The technology in question would be included in the standards but for the deception; the deceptive behavior allowed the SEP owner to acquire market power and the SEP owner's anticompetitive intent. The analysis has shown that section 5 of the FTCA could perhaps apply to some conduct that remains outside the scope of the Sherman Act but the exact reach of the provisions remains yet to be clarified. For now, the scope of section 5 of the FTCA, in addressing the SEP owner's deceptive conduct seems to coincide with the scope of section 2 of the Sherman Act.

In Europe, the absence of a dominant position at the time of deception prevents the application of Article 102 TFEU to the SEP owner's conduct. A non-dominant undertaking does not have the particular responsibility under Article 102 to abstain from conduct that impairs undistorted competition in the market. An antitrust liability can only arise if, after the implementation of the standard, and the consequent obtainment of a dominant position, the SEP owner engages in an abusive practice.

The simple deceptive practice of a non-dominant SEP owner, without a subsequent abuse, falls outside the domain of Article 102 TFEU. Given the majority of participants in the standardization process are not dominant at the time of deception, it is evident that Article 102 TFEU faces a significant limitation in addressing the deceptive practices. The Commission could adopt an approach which recognizes that when a deceptive act of non-dominant SEP owner allows the company to obtain a dominant position, the conduct would still fall under the prohibition of Article 102 TFEU. An extensive reading of Article 102 is not desirable.

In Japan, the IP Guidelines recognizes the possibility of deceptive conduct by SEP owner both as private monopolization as well as unfair trade practice; nevertheless, no ambush cases have been presented by authorities or any private party.

6 Chapter 6: Strategic Licensing Conducts

Once a patented technology becomes essential for the standard, the SEP owner becomes an unavoidable trading party for all manufacturers of standard compliances goods. The position the SEP owner obtains after the implementation of its patented technology in a standard might open the possibility of opportunistic licensing practices.

Opportunism arises as a SEP holder has made a commitment to license on FRAND terms and then refuse to license, request an excessive price or seeks to use injunctive relief, as leverage in negotiations to obtain an unjustifiably higher royalty than would have been possible ex-ante.[375] The strategy rests on the patent owner's ability to impedes or hinder the distribution of the end product, or ask for a royalty rate not according to the value of the patent, after the costs of designing, producing, and distributing the final product have been sunk.[376]

The threat of hold-up arises from the apparent difficulty and expense of switching to a different technology once a standard is adopted.[377] Allegedly, this lock-in confers market power on the owners of the incorporated patents, which SEP holders may seek to take advantage of by engaging in the holdup.[378]

6.1 Refusal to License

In general terms, there is no precedent evaluating the antitrust liability for the SEP owner's refusal to license. United States' antitrust law is relatively permissive of refusal to license IP even in the setting of a rooted dominant position. It is only in rare circumstances that an obligation to license has been imposed.

Also in Europe, a property owner has the right to choose whether and with whom to deal. This principle will apply to IP as well as in relation to tangible property.[379] In some circumstances,

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[375] Wong-Ervin, note 124 at 11.

[376] Cotter, note 123 at 59.

[377] See e.g. MICROSOFT CORP. V. MOTOROLA, INC. (W.D. WASH), note 269 at **10-11; U.S. Dep't of Justice and United States Patent & Trademark Office (USPTO), note 243 at 4.

[378] Wong-Ervin, note 124 at 11.

[379] European Commission, Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings 2009 O.J. C 45/7 7–20 75 (2009) (When setting its enforcement priorities, the Commission starts from the position that, generally speaking, any undertaking, whether dominant or not, should have the right to choose its trading partners and to dispose freely of its property.).

however, Article 102 of the TFEU[380] establishes an exception from the principle of contractual freedom by prohibiting a refusal to deal with an abuse of a dominant position.[381] The use of IPR as an instrument of commercial strategy has in fact resulted in some cases where IP owners have been found guilty of abusive conduct.[382]

Finally, the Japanese legal framework accepts the position that an intellectual property holder unilaterally may refuse to license its IP; nevertheless, it also recognizes certain exceptions to the general rule.[383] The Intellectual Property Guidelines (IP guidelines) provide that a decision by an intellectual property holder not to grant a license be viewed as an exercise of the underlying IPR and normally constitutes no problem.[384] It is important to bear in mind that the majority of positions set forth by the JFTC in the Intellectual Property Guidelines have yet to be tested in court.[385]

6.1.1 Refusal to License in US

Following the Supreme Court's Judgment in Trinko, as a general principle there should be no duty to license intellectual property to others.[386] This decision established three main postulates, as follows:

- The right to freely choose business partners and dispose freely of owns property;[387]

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[380] TFEU, note 104 at 102 (Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States. Such abuse may, in particular, consist in: [a] directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; [b] limiting production, markets or technical development to the prejudice of consumers; [c] applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; [d] making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.) .

[381] Jon Loge Ramstad, *Refusal to License IP as Abuse of Dominance : Balancing Intellectual Property and Competition Law*, January 1, 2010, https://www.duo.uio.no/bitstream/handle/10852/36378/178756.pdf?sequence=4; See also Sofia Oliveira Pais, *Standard Essential Patents – License to kill? (Japan), in* ABUSE REGULATION IN COMPETITION LAW (2015), http://ascola-tokyo-conference-2015.meiji.jp/pdf/ConferencePapers/Parallel%20Sessions/Sofia%20Oliveira%20Pais.pdf (last visited May 18, 2016); Lamping, note 59.

[382] Anderman and Schmidt, note 2 at 73.

[383] OLIVER, note 110 at 404.

[384] JFTC IP Guidelines 2015, note 27 at 3(1)(i) (Restrictions by the right-holder to a technology such as not to grant a license for the use of the technology to an entrepreneur [including cases where the royalties requested are prohibitively expensive and the licensor's conduct is in effect equivalent to a refusal to license; hereinafter the same shall apply] or to file a lawsuit to seek an injunction against any unlicensed entrepreneur using the technology are seen as an exercise of rights and normally constitutes no problem.).

[385] OLIVER, note 110 at 404.

[386] IOANNIS LIANOS & ROCHELLE C. DREYFUSS, NEW CHALLENGES IN THE INTERSECTION OF INTELLECTUAL PROPERTY RIGHTS WITH COMPETITION LAW - A VIEW FROM EUROPE AND THE UNITED STATES 157 81 (2013), http://www.ucl.ac.uk/cles/research-paper-series/research-papers/cles-4-2013 (last visited Oct 12, 2015); See also Novell, Inc. v. Microsoft Corp., 731 F.3d 1064, 1074 (2013).

[387] United States v. Colgate & Co., 250 U.S. 300, 307 (1919) (In the absence of any purpose to create or maintain a monopoly, the [Sherman Act] does not restrict the long recognized right of a trader or manufacturer engaged in an entirely private business freely to

- An obligation to license even under fair and reasonable circumstances will undermine the incentive to invest and innovate, harming consumers.[388]

- The court is unlikely to be an efficient enforcer in the case the duty to license should be imposed more frequently.[389]

The ruling put emphasis on dynamic efficiency[390] and the incentives of the dominant undertaking to invest and not on the allocative efficiency losses[391] of monopoly pricing.[392]

According to the IP Guidelines, the agencies generally evaluate restraints in intellectual property licensing arrangements under the rule of reason.[393] Therefore, the agencies look to see whether the restraint is likely to have anticompetitive effects, and if so, whether the restraint is reasonably necessary to achieve procompetitive benefits that outweigh those anticompetitive effects.[394]

The reluctance to find a refusal to license anti-competitive does not preclude the SEP owner's liability

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exercise his own independent discretion as to parties with he will deal).

[388] Verizon Communs., Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407–408 (2004) (Firms may acquire monopoly power by establishing an infrastructure that renders them uniquely suited to serve their customers. Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities).

[389] Id. at 408. (Enforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing--a role for which they are ill-suited.).

[390] Tejvan R. Pettinger, DYNAMIC EFFICIENCY ECONOMICS HELP (2014), http://www.economicshelp.org/microessays/costs/dynamic-efficiency/ (last visited Feb 8, 2017) (Dynamic efficiency is concerned with the productive efficiency of a firm over a period. A firm that is dynamically efficient will be reducing its cost curves by implement new production processes).

[391] Tejvan R. Pettinger, ALLOCATIVE EFFICIENCY ECONOMICS HELP (2014), http://www.economicshelp.org/blog/glossary/allocative-efficiency/ (last visited Feb 8, 2017) (Allocative efficiency occurs when there is an optimal distribution of goods and services, taking into account consumer's preferences).

[392] LIANOS AND DREYFUSS, note 386 at 81; See also Bhaskar Sastry, *Market Structure and Incentives for Innovation*, INTERTIC POLICY PAP. (2005), http://www.intertic.org/Policy%20Papers/Sastry.pdf (last visited Oct 6, 2014) (This position has been qualified as a one-sided view of the relationship between economic power and innovation.); Beatriz Conde Gallego, *Unilateral Refusal To License Indispensable Intellectual Property Rights –US and EU Approaches*, *in* RESEARCH HANDBOOK ON INTELLECTUAL PROPERTY AND COMPETITION LAW 215, 220 (Josef Drexl ed., 1 ed. 2008) (This position presumes that innovation is higher in monopolistic markets. However, while it is generally accepted that a certain degree of market power and the possibility to recoup investments spur innovation, it is also well known that a monopoly is dynamically inefficient. Without any competitive constrains, the monopolist has no incentive to invest in innovation.).

[393] U.S. Dep't of Justice & Fed. Trade Comm'n, Antitrust Guidelines for the Licensing of Intellectual Property 34 3.4 (1995) (The 1995 IP guidelines reflected a significant change in antitrust policy since the era of the Nine No-No's of the early seventies. Over time, as the antitrust laws shifted from per se rules and came to focus more on rule of reason analysis, the bright line rules of the Nine No-No's fell out of favor with both agencies. The somewhat formalistic U.S. antitrust law of the seventies viewed these licensing practices as generally unlawful, if not per se illegal.). (Hereinafter IP Guidelines).

[394] Id. at 3.4.

for refusing to license a FRAND-encumbered SEP.[395] It is incorrect to conclude that antitrust does not apply because under competition law a firm is free to refuse to license its patents.[396] The case law determined that the patent owner cannot use the statutory right of refusal to license to gain a monopoly power in a market beyond the scope of the patent.[397]

Finding the SEP owner's refusal to license a FRAND- encumbered patent anti-competitive does not contradict the Trinko decision. The case of a FRAND-encumbered SEP differs from Trinko where the defendant would not cooperate with other undertakings absent a statutory duty to do so.[398] By imposing an obligation to license, antitrust law would not impose on the SEP owner any additional duty, but one the SEP owner voluntary agreed to with the SSO. Although competition law does not impose on a SEP owner an obligation to cooperate with its licensees, once a SEP owner voluntarily enters in such collaboration by making a FRAND commitment, a subsequent refusal to license could trigger the application of the Sherman Act.[399]

Given the absence of precedents, it remains unclear whether courts would be willing to find a refusal to license a SEP anti-competitive. US courts have been very reluctant to impose on undertakings a duty to deal with competitors. In case an anti-competitive offense was to be found the legal standard for evaluation would be the extension of the market power beyond the scope of the patent.[400]

6.1.2 Refusal to License in Europe

The interpretation of the case law and in particular the decisional practice of the Commission and its soft law rulemaking activity indicate the "exceptional circumstances" concept have been expanded.[401] They cover an array of situations and the conditions set by the ECJ in IMS/NDC Health[402] do not effectively limit the scope of liability under Article 102 TFEU.[403]

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[395] Petrovcic, note 5 at 109.

[396] Hovenkamp, note 24 at 105.

[397] Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 (1994); See also CSU, L.L.C. v. Xerox Corp. (In re Independent Serv. Orgs. Antitrust Litig.), 203 F.3d 1322, 1327 (2000); NOVELL 731 F.3D, note 386 at 1074.

[398] Qualcomm 501 F.3d, note 126 at 316.

[399] Petrovcic, note 5 at 109.

[400] Id. at 110.

[401] See Nicolas Petit, The Antitrust and Intellectual Property Intersection in European Union Law, in The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech 81 (D. Daniel Sokol & Roger D. Blair eds., 1 ed. 2017).

[402] CASE C-481/01 IMS HEALTH, note 359.

[403] LIANOS AND DREYFUSS, note 386 at 81.

The exact nature of these circumstances is far from clear. The past ECJ and General Court (GC) judgments suggest that an outright refusal to license violates Article 102 if:

- The IP holder is dominant in a relevant market;
- The intellectual property is indispensable to an activity in a downstream market;
- The refusal eliminates effective competition in that downstream market;
- The would-be licensee seeks to sell products or services not currently being offered for which there is customer demand; and
- the refusal to license is not objectively justified.[404]

Article 102 does not allude in its non-exhaustive list of examples of anticompetitive conduct to unilateral refusal to deal in general, let alone to refusals to license intellectual property in particular.[405] Nonetheless, the article has been interpreted to apply more widely than merely prohibiting exploitative abuses; [406] it is also aimed at structural[407] or exclusionary[408] abuses directed against competitors, both in primary and related markets.[409]

Refusal to supply is classified among the exclusionary abuses; therefore, refusal to license intellectual property is an exclusionary abuse. The theory is that maintaining existing levels of competition in markets that have already been weakened by the presence of the dominant firm operates indirectly to protect consumers and contributes to innovation.[410] As soon as an IP owner holding market power uses that power or attempt to eliminate existing competition and impeding innovation, it has been difficult to argue that possible long-term innovative efficiencies can provide a justification for a refusal under Article 102.[411] Furthermore, It must be shown that the methods used to achieve this effect are

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[404] OLIVER, note 110 at 178.

[405] Ian Eagles & Louise Longdin, Refusals to License Intellectual Property: Testing the Limits of Law and Economics 150 (1 ed. 2011).

[406] Hawk, note 13 at 873 (An exploitative abuse has been defined as conduct that makes "use of the opportunities arising out of [a company's] dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition.). See Case 27/76 United Brands, note 13 at 249 (There are no exploitative abuses under § 2.). See Posner, note 107.

[407] See Case 6/72 Continental Can, note 108 (Structural abuses concern mergers and acquisitions that strengthen a dominant position).

[408] Case 85/76 Hoffman La-Roche, note 81 (Exclusionary abuses concern direct or indirect harm to competitors).

[409] Anderman and Schmidt, note 2 at 74 (Exclusionary abuses includes acquisitions, predatory pricing, and refusal to supply and refusal to license, none of which are explicitly mentioned in article 102).;

[410] Id. at 74.; Case 6/72 Continental Can, note 108 at 24.

[411] Anderman and Schmidt, note 2 at 74.; Case 6/72 Continental Can, note 108 at 26.

different from those who govern normal competition by traders' performance. [412]

Currently, despite the desire for a policy change suggested by the Commission, the EU courts have insisted that is not necessary to prove actual harm or likely harm. It is sufficient to demonstrate that the conduct gives rise to a risk of eliminating existing levels of effective competition.[413]

A refusal to license allows the SEP owner to exclude the manufacturer from the market of standard compliant goods, and in some circumstances, from the entire product market. Cases concerning a refusal to license a SEP thus raise similar concerns as the ones arising about essential facilities.[414]

There is so far, no precedent determining whether a SEP owner's refusal to license constitutes anti-competitive under EU competition law. Cases where the SEP owner unilaterally and unconditionally refuses to license its SEP are rare in practice. It is nonetheless possible to speculate that a SEP owner's refusal to license could constitute an anti-competitive conduct under EU competition law. When evaluating the applicability of Article 102 TFEU, it is important to keep in mind that refusal to license a SEP takes place at the time when the patented technology has been implemented in the standard, and the SEP owner has (presumably) obtained a dominant position. Tough patent holders, including dominant ones, are in principle free to select their licenses, such right is not unqualified, and in exceptional circumstances, a refusal to license can constitute an abuse of a dominant position.[415]

Although the ECJ and the Commission did not discuss the presence of exceptional circumstances in any investigation against SEP owner, it is possible to foresee several instances where the SEP owner's refusal to license would meet these elements.[416]

For example, in the implementation of the GSM standard, the access to the SEP meets the requirement

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[412] See Case 85/76 Hoffman La-Roche, note 81 at 6 (In the ruling the court stated that an abuse is an objective concept relating to the behavior of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition.). Also see Case 322/81 Michelin, note 81 (In this case the court stated one of the clearest statements of the wider approach of article 102, the CJEU reaffirmed "article 102 covers practices which are likely to affect the structure of a market where, as a direct result of the presence of the undertaking in question, competition is weakened and which through recourse to methods different from those governing normal competition in product s or services based on traders' performance, has the effect of hindering the maintenance or development of the level of competition still existing in the market.").

[413] Anderman and Schmidt, note 2 at 75.

[414] Petrovcic, note 5 at 105.

[415] Id. at 105.

[416] Id. at 106.

of indispensability. Since the compliance with the standard was a de facto requirement for the participation in the EU market for mobile devices, the access to the SEP was indispensable for manufacturers entering the EU market. Moreover, by refusing to license, the SEP owner could exclude manufacturers from the EU mobile devices market. Likewise, a refusal to license could prevent manufacturers to offer new devices, for which there is a potential demand.[417] This new product element should be read as stated that in the Microsoft Case.[418] The ruling substantially relaxed the requirement in earlier case law that the refusal to license an IPR must prevent the emergence of a new product for which there is consumer demand.[419] Microsoft's conduct was not necessarily impeding the emergence of an identifiable new product. Microsoft's conduct had nevertheless, according to the Commission, the effect of reducing the incentives of its competitors to innovate (and produce new products in the future) and therefore to limit consumer choice.[420] Rather, the CFI suggested that the underlying analysis considers whether the refusal to deal causes "prejudice to consumers," and it indicated that the limitation of "technical development" could also cause such prejudice. Arguably, this lower standard can be satisfied in any circumstance where the licensing of the IPR will not simply result in a competitor creating a copy of the IP owner's product.[421]

The analysis also applies to cases of a constructive refusal to license a SEP. A SEP owner that is not interested in licensing its SEP might make a fictitious offer to the manufacturers, but impose unreasonable licensing conditions that cannot be accepted by the manufacturer. Such practice has the same effects of a refusal to license and is evaluated by applying the same legal doctrine.[422]

6.1.3 Refusal to License in Japan

The IP Guidelines recognizes refusal to license IPR as a legitimate exercise of rights; therefore, in most cases, such conduct will be lawful. However, if such refusal is found to deviate from or run counter to the intent and objectives of the intellectual property systems, it is not recognizable as an exercise of rights. It then constitutes private monopolization if substantially restrains competition in a particular field of trade.[423]

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[417] Id. at 106.

[418] See Case T-201/04 Microsoft Corp. v. Comm'n (Microsoft), 2007 ECR II 3601 (2007).

[419] Ariel Katz & Paul-Erik Veel, *Beyond Refusal to Deal: A Cross-Atlantic View of Copyright, Competition and Innovation Policies*, 79 ANTITRUST LAW J., 151 (2013), http://papers.ssrn.com/abstract=1898118 (last visited May 18, 2016).

[420] LIANOS AND DREYFUSS, note 386 at 80.

[421] Katz and Veel, note 419 at 151.

[422] Petrovcic, note 5 at 106.

[423] JFTC IP Guidelines 2015, note 27 at 3(1)(i).

This interpretation is consistent with the reading given to Article 21 of the antitrust law, regarding the exemption of its application about intellectual property rights.[424]

Also, the Guidelines on Standardization and Patent Pool Arrangements stated that if a patent holder has taken part in the activities and is endeavoring to have its patented technologies adopted by the specifications, refusing to grant a license will pose a legal problem with the Antimonopoly Act.[425]

Finally, when specifications are standardized, and if it becomes difficult for companies to develop and produce the products with such requirements, then the activities of patents holders do constitute private monopolization when they substantially restrict competition in related markets. Alternatively, they can constitute unfair trade practices when they threaten to impede fair competition.[426]

6.2 Excessive Royalties

The EU and US approaches differ when addressing the patent's owner imposition of excessive royalties. In the EU, the imposition of excessive prices, including excessive royalties, can constitute an anti-competitive conduct.[427] Excessive prices are, on the contrary, not an antitrust offense under U.S. antitrust law. The different approaches EU competition law and US antitrust law adopt towards exploitative conducts (and excessive royalties, more specifically) reflect the divergence between the underlining ideologies on which the two systems rely.[428]

The United States is based on a strong assumption that the free market leads to best allocation of economic resources. Therefore governmental and judicial intervention should not be an obstacle to the open market. Consequently, there is a strong suspicion towards antitrust intervention in the case of excessive pricing.[429]

The EU approach has a stronger emphasis on distributive justice. At first, the concept regards

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[424] See Japanese Antimonopoly Act, note 110; See also Heath, note 109; Akira Inoue, 27 Japanese Antitrust Manual 45 (1 ed. 2007).

[425] See Japan Fair Trade Commission (JFTC), note 10.

[426] See *Id.*

[427] TFEU, note 104 at 102 (Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States. Such abuse may, in particular, consist in: [a] directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions….).

[428] Petrovcic, note 5 at 61; See also Harry First, Exploitative Abuses of Intellectual Property Rights, in The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech 204 (D. Daniel Sokol & Roger D. Blair eds., 1 ed. 2017).

[429] Michal S. Gal, *Monopoly Pricing as an Antitrust Offense in the U.S. and the EC: Two Systems of Belief about Monopoly?*, 49 ANTITRUST BULL. 343 (2004), http://abx.sagepub.com/content/49/1-2/343 (last visited May 23, 2016).

excessive pricing as an inequitable distribution of the benefits of the market.[430] Furthermore, the prohibition of excessive prices must also be evaluated in the light of the basic principles on which the EU was established. Also, the ban on excessive prices aimed at addressing potential barriers to the development of an internal EU market that could be raised by private parties.[431]

In the Japanese case, the JAA prohibits "private monopolization," but also condemns unfair trade practices, which include "dealing at unjust prices" and dealing with another party on terms that "restrict unjustly" the other party's business.[432] Furthermore, the IP Guidelines stated that exclusionary conduct includes cases, where the royalties requested, are prohibitively expensive, and the licensor's conduct is in effect equivalent to a refusal to license.[433]

6.2.1 Excessive Royalties in the US

U.S. antitrust law is only concerned with the illegitimate obtainment or maintenance of monopoly power, but it does not determine how a legitimate monopoly should use its market power.[434] The Trinko ruling established that charging monopoly prices is not only not unlawful but is an essential element of the free-market system. Furthermore, the opportunity to charge monopoly prices, at least for a short period, is what attracts business acumen in the first place; it induces risk taking that produces innovation and economic growth.[435]

Likewise, the imposition of excessive royalties is also unlikely to constitute a stand-alone offense of section 5 of the FTCA. Given the strong reluctance to condemn excessive prices under the Sherman Act, the FTC did generally not challenge the unilateral imposition of excessive royalties as unfair methods of competition.[436]

In N-Data the FTC found excessive pricing to be an unfair method of competition and an unfair act or practice in violation of Section 5 of the FTC Act. A settlement was reached under which N-Data agreed

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[430] See Liza Lovdahl Gorsmen, *Article 82 EC- Where Are We Coming From and Where Are We Going to?*, 2 COMPET. LAW REV. (2006), https://www.scribd.com/document/251208349/Article-82-EC-Where-Are-We-Coming-From-and-Where-Are-We-Going-to (last visited Apr 24, 2017).

[431] Petrovcic, note 5 at 61; See TFEU, note 104.

[432] See Japanese Antimonopoly Act, note 110 at 2 (9), 19.

[433] JAPAN FAIR TRADE COMMISSION (JFTC), note 276 at 1 (i).

[434] See e.g. Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 297 (1979); Blue Cross & Blue Shield United v. Marshfield Clinic, 65 F.3d 1406, 1413 (1995).

[435] TRINKO 540 US, note 388 at 407.

[436] See First, note 428; PETROVCIC, note 5 at 61.

to honor the licensing commitments made by the predecessor owner and any commitments that N-Data might make to SSO in future.[437] A dissenting FTC Commissioner opinion characterized the N-Data case as a material departure from the prior line of SSO cases brought by the FTC, which were grounded in deceptive conduct in the standard-setting context that led to, or was likely to lead to, anti-competitive effects.

Importantly, in Google and N-Data cases the FTC was operating under a "stand-alone" approach to Section 5 of the FTC Act. Section 5 gives the Commission authority to stop "unfair methods of competition," but Congress chose not to define that vague term when enacting the FTC Act. All agree that the inner bounds of the phrase include anything that violates the Sherman Act, but the outer bounds are highly contested.[438] Both Google and N-Data represent significant efforts by the Commission to mark an outer bound that would be sensitive to the exploitative behavior of patent holders, albeit exploitative behavior that still had an adverse (if quantitatively undefined) effect on competition in downstream markets and on innovation.[439]

Whether the courts would accept the Commission's legal approach to this type of conduct, however, is uncertain. Both cases were settled by consent, and no court has recently been called on to review the Commission's approach to a stand-alone theory of Section 5.[440]

The SEP owner's imposition of exploitative licensing conditions does not constitute anticompetitive conduct even if such exploitation was possible because of the SEP owner's deceptive conduct. The DC Circuit made this point clear in Rambus, where it clarified that deceptive conduct during the standardization process might constitute a violation of section 2 if it allows the SEP owner to acquire market power unlawfully. If it only allows the SEP owner to charge higher prices, the conduct falls outside the domain of the Sherman Act.[441]

6.2.2 Excessive Royalties in Europe

In Europe, The ECJ clarified that the word unfair also encompasses excessive prices.[442] It explicitly stated (although referring to copyrights) that an IPR does not guarantee the owner the opportunity to

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[437] NEGOTIATED DATA C-4224 FTC, note 327 at 37.

[438] See First, note 428.

[439] See Id.

[440] Id.

[441] Petrovcic, note 5 at 117; See Rambus II 522 F.3d, note 75 at 456,464-466.

[442] See e.g. Case 27/76 United Brands, note 13 at 235; Joined Cases C-110/88, C-241/88 & C-242/88 Francois Lucazeau v. SACEM, 1989 E.C.R., 33 (1989).

demand the highest possible remuneration, but only the appropriate compensation.[443] The case law has thus clearly determined that the patent holder's imposition of excessive royalties can constitute an abuse of a dominant position in violation of Article 102 TFEU.[444]

The possibility of an antitrust intervention does not necessarily imply that it is desirable from a policy perspective for several reasons.

First, the difficulty in identifying an exploitative licensing practice or defining the line between legitimate but high royalty and an abusive, exploitative price. Neither the ECJ nor the Commission has designed a clear test that would allow identifying unfair, excessive royalties.

Furthermore, the absence of a clear test has several negative implications for the antitrust intervention. On the one hand, it leaves a strong level of legal uncertainty for SEP owners, who do not have any reference to evaluate whether the royalty fee they demand is within the borders of legality. At the same time, the absent of a clear test opens the door for wrong decisions. The commission might erroneously consider the royalties for the SEP excessive, although they are not. In this case, the Commission intervention would illegitimately limit the SEP owner's compensation for its innovate effort, and consequently, it would affect negatively the SEP owner's willingness to engage further in the innovative process and contribute technologies to the SSO.[445]

The absence of a clear legal test might also favor the strategic use of antitrust claims by the manufacturers. Defendants in IP cases cast for some weapon with which to strike back at the plaintiff: an antitrust claim allows the IP defendant to regain the offensive.[446] A manufacturer might use a claim of an anticompetitive conduct as a tool to obtain bargain power in the negotiation of the licensing terms. A SEP owner that is facing a potential antitrust liability, including the possibility of a high fine and private damage claims, might be more willing to agree on a lower royalty.[447]

Even if the competition authority does not address the SEP owner's imposition of excessive royalties, manufacturers will have other legal mechanisms to challenge the SEP owner's exploitative practice. If the manufacturer does not agree with the licensing conditions demanded by the SEP owner, it will

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[443] Joined Cases C-403/08 & C-429/08 Football Association Premier League and Others, 2011 EC R I 9083 (2011).

[444] Petrovcic, note 5 at 60.

[445] *Id.* at 115.; Sidak, note 42; Vincenzo Denicolo et al., *Revisiting Injunctive Relief: Interpreting Ebay in High-Tech Industries With Non-Practicing Patent Holders*, 4 J. COMPET. LAW ECON. 571 (2008), http://jcle.oxfordjournals.org/cgi/doi/10.1093/joclec/nhn028 (last visited Feb 4, 2015).

[446] See Hovenkamp et al., note 134.

[447] Petrovcic, note 5 at 115.

be able to challenge them in court by demanding the tribunal to determine whether the offered licensing conditions comply with the FRAND commitment. The legal basis for bringing those disputes is not antitrust, but rather contract law, more precisely the FRAND agreement. Therefore, the fact the SEP owner's conduct will not be challenged thru competition law does not necessarily imply that the conduct will not be contested through other legal tools.[448]

In sum, although there is no doubt that Article 102 TFEU provides a legal basis for the European Commission's intervention towards SEP owner's exploitative licensing conduct, it is less clear whether the intervention is desirable from a policy perspective. The risk of erroneous decisions, the resulting negative impact on innovation and the standardization process, coupled with the manufacturer's ability to challenge the exploitative licensing practices through other legal means weigh against intervention.[449]

6.2.3 Comparative Approach

Existing differences between the approach EU competition law and US antitrust law adopt towards exploitative abuses is less prominent in practice. Despite the legal basis for an antitrust intervention, the European Commission has in fact rarely condemned dominant undertakings for imposing excessive prices. The intervention has often been unnecessary given the ability of the market to self-correct.[450] High prices should attract new entrants in the market, consequently drives prices down to competitive levels.[451]

The intervention towards excessive prices has often been also considered controversial. One reason is the absence of a clear test that would allow competition authority to differentiate between high, but legitimate prices, and those that are excessive and thus abusive. As aforementioned, The ECJ defined excessive prices as prices which have no reasonable relation to the economic value of the products supplied.[452] Reasonable and economic value are however vague terms that provide little guidance for practical evaluation.[453] The identification of an excessive royalty might be particularly challenging in

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[448] Id. at 116.

[449] Id. at 116.

[450] Giorgio Monti, EC Competition Law (1 ed. 2007); Tiancheng Jiang, China and EU Antitrust Review of Refusal to License IPR (1 ed. 2015).

[451] Petrovcic, note 5 at 62.

[452] See e.g. Case 27/76 United Brands, note 13; Case 85/76 Hoffman La-Roche, note 81.

[453] EUROPEAN COMMISSION, note 125 at 289 (In the context of tangible goods, the ECJ adopted a two-step test. Frist, it is necessary to analyze whether the difference between costs and the charged price is excessive; and determine whether the price is either unfair in itself or when compared to competing products. The commission has recognized nevertheless, its limited applicability for IPR.); Geradin, note 275.

the context of IPR where, what might be considered a monopoly profit in other sectors, only represents a fair compensation for innovative technology.[454]

Given the controversies related to the intervention in cases of excessive prices, it should come as no surprise that in the EU as well the antitrust enforcement has rarely focused on exploitative abuses.[455]

The few cases in which the Commission challenged the imposition of excessive prices concerned situations where the market was not able to self-correct the excessive level of price, because of the presence of significant barriers to entry. For example, the case of natural or legal monopolies, such as ports and postal service.[456] A similar approach was adopted in the context of IPR. The commission condemned the pricing strategy of the French performing rights society SACEM in licensing French discotheques.[457] The commission maintained customers had no possibility to switch to an alternative licensor, in response to exploitative licensing conditions, given that the SACEM has a legally granted monopoly.[458]

The antitrust analysis follows a different path in cases where the imposition of excessive royalties has an exclusionary effect. It is possible that a patent owner is not interested in licensing its technology, and makes a fictitious offer to the licensee, by imposing licensing conditions that will ultimately be rejected. The literature often refers to such practices as a constructive refusal to deal. These circumstances could trigger antitrust liability in the US and the EU, but the analysis would be about the excessive process exclusionary effects not on the price itself.[459]

6.2.4 Conditional Licensing

Courts and competition authorities confirmed that the imposition of grant-back clauses, non-assertion clauses, royalty-free clauses or other forms of conditional licensing might also trigger anti-competitive concerns. Competition law does not prohibit such practices. Rather, it recognizes that these types

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[454] MARCUS GLADER, INNOVATION MARKETS, AND COMPETITION ANALYSIS: EU COMPETITION LAW AND US ANTITRUST LAW (1 ed. 2006).

[455] Petrovcic, note 5 at 64.

[456] Case 26/75 General Motors Continental NV v. Comm'n, 1975 E.C.R. 1367 (1975); Commission Decision 2001/L 331/40 (Case COMP 36915 — Deutsche Post AG), 2001 OJ 331 (2001).

[457] CASE C-110/88 SACEM, note 442.

[458] PETROVCIC, note 5 at 63; See EUROPEAN COMMISSION, note 379 at 7–20 (The Commission may decide to intervene in relation to [excessive prices] in particular where the protection of consumers and the proper functioning of the internal market cannot otherwise be adequately ensured.) .

[459] Marjolein Tapking, *Refusal to Supply Customers under Article 82 EC*, August 1, 2008, http://www.unige.ch/droit/mbl/upload/pdf/MEMOIRE_Marjolein_Tapking.pdf; JOSEF DREXL, REFUSAL TO DEAL (ANSWERS TO THE QUESTIONNAIRE) (2009), http://www.internationalcompetitionnetwork.org/uploads/questionnaires/uc%20refusals/drexl.pdf (last visited May 1, 2017).

of licensing constraint often have procompetitive effects.[460]

The studied jurisdictions emphasized the need to evaluate the imposed licensing conditions on a case-by-case basis. Recognizing that conditional licensing is legitimate, but that in some circumstances, the imposition of specific licensing requirements might constitute an anti-competitive behavior.[461]

For example, in 2006 the Japan Fair Trade Commission began a long- running proceeding against Qualcomm focused on two of its practices regarding the licensing of FRAND-committed SEPs for CDMA technology. One required Japanese handset manufacturers to grant Qualcomm royalty-free licenses to their patents; the other forbade Japanese manufacturers from asserting their patents against Qualcomm or Qualcomm's customers (a non-assertion of patents clause). Both practices prevented licensees from taking actions that could have lowered the net royalties due Qualcomm.[462]

In 2009, the JFTC found Qualcomm's practices to be a violation of the Antimonopoly Act, not as monopolization but as a designated "Unfair Trade Practice," specifically, "trading on restrictive terms."[463]

6.3 Injunctions

One of the most contentious issues regarding SEP is the instances in which restraining orders and injunctions should (or should not) be permitted. Moreover, if injunctions are allowed, when such injunction request or enforcement would constitute an anti-competitive conduct and facilitate hold up.

The threat of hold-up arises from the possible difficulty and expense of switching to a different technology once a standard is adopted.[464] Allegedly, this lock-in confers market power on the owners of the incorporated patents, which may seek to take advantage by forcing the infringer to

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[460] PETROVCIC, note 5 at 64; See e.g. U.S. DEP'T OF JUSTICE AND FED. TRADE COMM'N, note 10 at 88–91; U.S. DEP'T OF JUSTICE AND FED. TRADE COMM'N, note 393 at § 3.4.

[461] Petrovcic, note 5 at 66.

[462] Japan Fair Trade Commission, Cease-and-Desist Order of 30 September 2009, Heisei 21 (so) no 2, 55 Shinketsushū 712 (Qualcomm), (2009), http://www.jftc.go.jp/en/pressreleases/yearly-2009/sep/individual-000038.html; First, note 428 at 19; See also Mark Tricker & Marc Waha, KFTC AND JTFC CHALLENGE QUALCOMM FOR EXCLUSIONARY CONDUCT AND ABUSE OF DOMINANCE LEXOLOGY 19 (2009), http://www.lexology.com/library/detail.aspx?g=c001d0e0-58e1-4986-8192-328242505c99 (last visited Aug 30, 2016); Qualcomm Granted Stay in Japan FTC Case, WIRELESS WEEK (2010), http://www.wirelessweek.com/news/2010/02/qualcomm-granted-stay-japan-ftc-case (last visited May 25, 2016).

[463] JFTC, CEASE-AND-DESIST ORDER OF 30 SEPTEMBER 2009, note 462; First, note 428 at 19; See also Tricker and Waha, note 462 at 19; Qualcomm Granted Stay in Japan FTC Case, note 462.

[464] See e.g. MICROSOFT CORP. V. MOTOROLA, INC. (W.D. WASH), note 269 at **10-11; U.S. Dep't of Justice and United States Patent & Trademark Office (USPTO), note 243 at 4.

accept onerous licensing conditions.[465]

Views run the gamut from those who argue that a FRAND commitment in no way limits injunctive suits to those who claim that a FRAND commitment always bars injunctions.[466]

6.3.1 Injunctions In US

In the United States, whether a SEP holder's request for an injunction or an exclusion order exposes the SEP holder to antitrust liability is not settled. Enforcement Guidance on that question from both the Antitrust Division of the DOJ and the FTC is vague and fails to deliver a straightforward answer. So far, no court has found a SEP holder to have violated the Sherman Act by requesting an injunction or an exclusion order against an infringer.[467] The FTC has initiated several investigations against SEP holders that have asked for an injunction against an infringer, alleging that such a practice could violate Section 5 of the FTC Act. However, those FTC investigations resulted in consent orders and, consequently, did not establish whether and under what conditions a SEP holder's request for an injunction would violate section 5.

6.3.1.1 Samsung SEP Investigation

The DOJ Antitrust Division had scrutinized a SEP holder's use of an injunction (or, more precisely, an exclusion order) only once—in the investigation initiated against Samsung Electronics. The Antitrust Division decided to close the investigation against Samsung after it became clear that Samsung could not enforce an exclusion order against the infringer of its SEP.[468] Although the ITC initially granted Samsung an exclusion order regarding Apple's products infringing Samsung's SEP; the executive branch, acting through the U.S. Trade Representative, vetoed the ITC's decision because the exclusion order would disserve the public interest.[469] The Antitrust Division then said, "no further action [was] required" on its investigation.

The available documents do not clarify whether the Antitrust Division intended to prosecute

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[465] Wong-Ervin, note 124 at 11.

[466] Abbott, note 15.

[467] J. Gregory Sidak, Injunctive Relief and the FRAND Commitment in the United States, in Cambridge Handbook of Technical Standardization Law , 2 (Jorge Contreras ed., 2016).

[468] U.S. Dep't of Justice, STATEMENT OF THE DEPARTMENT OF JUSTICE ANTITRUST DIVISION ON ITS DECISION TO CLOSE ITS INVESTIGATION OF SAMSUNG'S USE OF ITS STANDARDS-ESSENTIAL PATENTS (2014), http://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-samsung (last visited May 18, 2016).

[469] Certain Wireless Communication Devices, Portable Music and Data Processing Devices, Computers and Components Thereof, (2013); See Sidak, note 95 at 249.

Samsung's request as an act of monopolization or attempted monopolization.[470] The Antitrust Division stated merely that the SEP holder could use the threat of an exclusion order to "exploit [its] market power obtained through the standards-setting process," without clarifying how that conduct would violate U.S. antitrust law.[471] It is questionable, however, whether the Antitrust Division's action against Samsung would have been successful if challenged in court. The only appropriate antitrust tool that the Antitrust Division might have had in its arsenal to challenge Samsung's behavior would have been section 2 of the Sherman Act.[472] However, one could question whether the Noerr-Pennington doctrine would bar the Antitrust Division's antitrust action. Also, even assuming that the Noerr-Pennington doctrine did not apply, it is unclear whether Samsung's behavior would fall under the domain of section 2.[473] It is well established that U.S. antitrust law does not prohibit the exploitation of monopoly power. Thus, merely showing that Samsung sought to extract exorbitant royalties would be insufficient to prove a violation of the Sherman Act.[474]

6.3.1.2 Case Robert Bosch GmbH (FTC Consent Agreement)

In this case, the FTC complaint alleged that seeking injunctive relief in an action for the infringement of two patents that may have been essential to the practice of standards despite having provided a letter of assurance (LOA) to abide by FRAND terms, constituted an unfair method of competition in violation of FTC Act § 5. The injunction would have excluded a willing competitor from the market.[475]

A consent agreement required Robert Bosch: (1) To license certain enumerated patents, including the patents at issue in the lawsuit, on a royalty-free basis; (2) To license any other patents it might thereafter acquire that are essential to the practice of the standards on FRAND terms; (3) Not to seek injunctive relief for the infringement of any of these patents.[476]

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[470] U.S. Dep't of Justice, note 468.

[471] See Id.

[472] Sidak, note 467 at 18.

[473] *Id.* at 18.; See also Eastern R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961); United Mine Workers v. Pennington, 381 U.S. 657 (1965); David T. Emanuelson & Thomas J. Dillickrath, *Injunctive Relief and the Noerr-Pennington Doctrine: The Search for Clarity on a Muddied Pitch*, 12 ANTITRUST CHRON. COMPET. POLICY INT. (2013), https://www.competitionpolicyinternational.com/assets/Uploads/DillickrathMAR-2.pdf (last visited May 18, 2016).

[474] See TRINKO 540 US, note 388; Sidak, note 467 at 18.

[475] See Robert Bosch GmbH (Complaint), FTC Docket C-4377 Nov 26 2012 (2012).

[476] See Robert Bosch GmbH [Decision and Order (Redacted Public Version)], FTC Docket C-4377 Apr 24 2013, §§ II.B.2,IV (2013); See Robert Bosch GmbH (Analysis of Agreement Containing Consent Orders to Aid Public Comment), FTC Docket C-4377 Apr 24 2013, 5 (2013).

The Commission stated that given the potential harm to competition, seeking injunctive relief becomes an "unfair method of competition.[477] Moreover, the Commission asserted that it had "no reason to believe that a monopolization count under the Sherman Act was appropriate."[478] Finally, the authority ruled that not every breach of a FRAND licensing obligation will give rise to Section 5 concerns, although when such a violation tends to undermine the standard-setting process and risks harming consumers, the public interest demands action.[479]

6.3.1.3 Case Motorola Mobility LLC and Google Inc.

In this case, the initial version of the FTC's complaint alleged that Google and Motorola Mobility violated § 5 by engaging in unfair methods of competition and unfair acts or practices by seeking injunctive relief for the infringement of FRAND-encumbered SEP's in federal district court and before the ITC.[480]

The FTC, in the consent order, agreed that a potential licensee must have the ability to negotiate what may constitute FRAND terms before the SEP holder can obtain an injunction. The FTC laid down a four-step test on how to establish FRAND based on the ESTI definition of essential (technical essentiality):[481]

- (1) Initial negotiation period (should be not less than six months);
- (2) First agreement proposal by the licensor (after the six months initial negotiation period, or on potential licensee's request during the six months period);
- (3) Respond or counter offer by the potential licensee (60 days to accept the proposed agreement or indicate which covenants it believes do not represent the FRAND commitment, and to what extent and effect these covenants should be altered to fulfill that commitment.);
- (4) Judicial or arbitration procedure (either a US district court or arbitration panel will determine what rights, obligations, and general covenants the license agreement will include

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[477] See ROBERT BOSCH C-4377 FTC, note 273 at 3; See DU PONT 729 2D. CIR., note 98 at 139–140.

[478] Thomas Cotter, *Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties*, 22 TEX. INTELLECT. PROP. LAW J. 311, 17 (2014), http://papers.ssrn.com/abstract=2318050 (last visited Feb 16, 2015).

[479] See ROBERT BOSCH C-4377 FTC, note 273 at 8.

[480] See Motorola Mobility LLC and Google Inc. (Complaint), FTC Docket C-4410 Jan 3 2013, 1, 25–27, 31–32 (2013) (Complaint).

[481] European Telecommunications Standards Institute (ETSI), note 6 at 15 (6).

i.e. the specific FRAND terms for the mutual collaboration.)[482]

During the procedure, the licensor will not be able to obtain injunctions against the potential licensee. After this period has elapsed, the licensor has the right to get injunctive relief, but it needs first to ask the potential licensee whether it agrees to determine the license agreement, i.e. FRAND through arbitration. If the licensee accepts that the determination of the license agreement will be in the hands of the arbitrator, the licensor will not be able to seek an injunction during arbitration.[483] It should be furthermore noted that the consent order only encompasses potential licensees who are inside the jurisdiction of the United States district courts.[484]

6.3.1.4 Section 5 as Antitrust Tools for Evaluating Injunctions

The use of Section 5 as a tool for FRAND-encumbered SEP cases has been criticized several aspects. Let's see

- Elements of Section 5 Standalone Offense

The agency did not determine the elements to be proven for specific behavior to be considered an act of unfair competition, although falling outside the scope of the Sherman Act.[485] The Commission should fully articulate its views about what constitutes an unfair method of competition, including the general parameters of unfair conduct and where Section 5 overlaps and does not overlap with the antitrust laws, and how the Commission will exercise its enforcement discretion under Section 5.[486] The uncertainty concerning the scope of Section 5 might have negative consequences beyond the Sherman Act.[487]

The absence of a clear legal test leaves substantial legal uncertainty for the SEP owners, who do not have a clear reference to evaluate whether their conduct is within the borders of legality. The lack of clarity might in turn not only deter SEP owners' pro-competitive practices but also negatively affect its willingness to participate in the standardization process and contribute its technology to the

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[482] See Motorola Mobility LLC and Google Inc. (Decision and Order), FTC Docket C-4410 July 23 2013 (2013).

[483] See Id.

[484] LUNDQVIST, note 180 at 336 (FRAND according to the order is not a test or a level, instead it is a procedure.).

[485] See Robert Bosch GmbH (Ohlhausen Statement), FTC Docket C-4377 Apr 24 2013, 3–4 (2013).

[486] See Id. at 3.

[487] Petrovcic, note 94 at 1380; See Du Pont 729 2d. Cir., note 98 at 138 (The determination of clear criteria is essential, given that otherwise "the door would be open to arbitrary" enforcement of Section 5 of the FTCA).

standard.[488]

- "Willing" Licensee Meaning

The FTC provided a problematic definition of "unwillingness" in the two consent agreements. The FTC evidently places the burden on a SEP holder to prove that a potential licensee is "unwilling" by the categories that the agency defines.[489]

The FTC's definition sets a high bar for a SEP holder to prove that an implementer is reluctant to accept FRAND terms. The FTC' s approach is flawed because it ensures that no potential licensee represented by counsel will be so careless as to certify in writing or sworn testimony that it is unwilling to negotiate with a SEP holder on any terms. The FTC's definition of an unwilling licensee would give the implementer substantial bargaining power.

An implementer could continue to refuse to negotiate with a SEP holder and continue infringing the SEP as long as it does not blunder into stating in writing or sworn testimony that it will not enter into a license and pay for the patented technology it is using.[490]

- SSO IPR Policies

The FTC might have difficulties in demonstrating that the SEP owner's request for an injunction should be considered unfair unless the use of injunctions is explicitly prohibited by the SSO's rules.

Until the IEEE policy update, most SSOs' internal rules did not preclude SEP owners from using injunctions against infringers of their FRAND-encumbered patents.[491] Maintaining that the utilization

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[488] Petrovcic, note 94 at 1380; See Motorola Mobility LLC and Google Inc. (Ohlhausen Statement), FTC Docket C-4410 July 23 2013, 2 (2013).

[489] Sidak, note 95 at 238; See ROBERT BOSCH C-4377 FTC, note 476 at § IV.E.2; See MOTOROLA/GOOGLE C-4410 FTC, note 480 at § II.E-II.E.2.

[490] Sidak, note 95 at 238.

[491] See Institute of Electrical and Electronics Engineers (IEEE), note 6 at § 6.2 (The IEEE amended its statement of policy to provide: The Submitter of an Accepted LOA who has committed to make available a license for one or more Essential Patent Claims agrees that it shall neither seek nor seek to enforce a Prohibitive Order based on such Essential Patent Claim[s] in a jurisdiction unless the implementer fails to participate in, or to comply with the IEEE, [sic] the outcome of, an adjudication, including an affirming first-level appellate review, if sought by any party within applicable deadlines, in that jurisdiction by one or more courts that have the authority to: determine Reasonable Rates and other reasonable terms and conditions; adjudicate patent validity, enforceability, essentiality, and infringement; award monetary damages; and resolve any defenses and counterclaims.); See European Telecommunications Standards Institute (ETSI), note 6 (ETSI discussed the possibility to implement in its internal policy a prohibition to seek an injunction for FRAND encumbered patent. The Interim IPR policy adopted in 1993 limitation to the SEP holder's use of injunctions. This provision was however later excluded from the policy adopted in 1994, and, to this day, it has not been implemented again); See Roger G. Brooks & Damien Geradin, Taking Contracts Seriously: The Meaning of the Voluntary Commitment to License Essential Patents on "Fair and Reasonable" Terms, in Intellectual Property and Competition Law: New Frontiers 389 (Steven D. Anderman & Ariel Ezrachi eds., 1 ed. 2010).

of an injunction if unfair because inherently in violation of the FRAND commitment might be however not sufficient. Courts might consider that the SEP owner has a valid business justification for using the statutory right to an injunction unless the SSO's rules explicitly prohibit such practices.[492]

Geradin stated that the making of a FRAND commitment by an essential patent holder could not be interpreted as an implicit waiver of its right to seek injunctive relief as recognized in the law. Such an interpretation would be in sharp contradiction to an established principle of law according to which a waiver of right can never be assumed lightly and must always be made explicitly or must at least be derived from circumstances that cannot possibly be interpreted any differently than the right owner's consent to waive its right.[493]

- The Federal District Courts, The ITC, and The Petition Right

By imposing Section 5 liability, the Commission ousts other institutions including the Federal Courts and the ITC from the important and complex area of SEP.[494] Moreover; seeking of injunctive relief, in either the courts or the ITC, on a patent – even a FRAND-encumbered SEP –should be a protected petitioning of the government under the Noerr-Pennington doctrine.[495] Finally, federal district courts have the tools to address the hold-up problem, by balancing equitable factors or awarding money damages; the ITC likewise has the authority under its public interest obligations to address this concern and limit the potential for the hold-up.[496]

- Evidence of Anticompetitive Effects

A further limitation in applying Section 5 of the FTCA relates to evidence that the SEP owner's conduct hurts competition. As stated in the first chapter the SEP owners' request for an injunction

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[492] See ERICSSON, INC. V. D-LINK SYS, note 197.

[493] Geradin and Rato, note 11 at 117.

[494] See United States' Clayton Act, 15; 29 U.S.C. (1914) (Section 5 only could be prosecuted through the FTC, not by the courts or the DOJ).

[495] See ROBERT BOSCH C-4377 FTC, note 485 at 2; See NOERR MOTOR FREIGHT 365 US, note 473; See PENNINGTON 381 US, note 473; See California Motor Transport Co. v. Trucking Unlimited, 404 U.S. 508 (1972) (Under the Noerr-Pennington doctrine, private entities are immune from liability under the antitrust laws for attempts to influence the passage or enforcement of laws, even if the laws they advocate for would have anticompetitive effects).

[496] ROBERT BOSCH C-4377 FTC, note 485 at 2; See EBAY 547 US, note 14; See CERTAIN WIRELESS COMMUNICATION DEVICES (337-TA-745), note 469 [Third Party FTC's Statement on the Public Interest (Int'l Trade Comm'n June 6, 2012)]; See EDITH RAMIREZ, OVERSIGHT OF THE IMPACT ON COMPETITION OF EXCLUSION ORDERS TO ENFORCE STANDARD-ESSENTIAL PATENTS: HEARING BEFORE THE H. COMM. ON THE JUDICIARY, 112TH CONG. (2012), http://www.judiciary.senate.gov/meetings/oversight-of-the-impact-on-competition-of-exclusion-orders-to-enforce-standard-essential-patents (last visited Apr 22, 2015).

might have several anti-competitive effects.[497] Although these might be strong anti-competitive effects, it is questionable whether a mere statement that the SEP owner's conduct had such an effect would be sufficient.[498]

Evidence of the anticompetitive consequences of the SEP owner's conduct might be particularly relevant in light of the criticisms of the hold-up theory.[499]

US antitrust law is constrained by the impossibility of showing anti-competitive effects concerning nascent or not yet traded patents or technologies. One aspect of standards is that they consist of agreements on the establishment of future markets. Such arrangements cannot be fitted into the classical notion of anticompetitive harm being conducted on relevant markets, especially when dealing with interoperability standards.[500]

6.3.2 Injunctions in Europe

In the EU, applications for injunctive relief by the holders of FRAND-encumbered SEPs in the course of protracted licensing negotiations fell to be addressed first under the various national laws concerning remedies for intellectual property violations, as partially harmonized by Directive 2004/48.[501] The outcome was not optimal. After German courts had introduced competition law in the equation in Orange Book, the European Commission felt compelled to intervene with a different approach in Motorola and Samsung, leading to a reference to the CJEU in Huawei v ZTE. That ruling sets out an elaborate framework that SEP holder and implementer must respect, to avoid breaching Article 102 TFEU or avert injunctive relief, respectively. Huawei represents a satisfactory compromise in practice, but its theoretical foundation in competition law is not solid. Subsequent jurisprudence has unmoored Huawei from competition law and is turning it into a stand-alone lex-specialis for injunctions in FRAND cases. In the longer run, legislative intervention might be preferable to de facto harmonization via competition law.

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[497] Wong-Ervin, note 124 at 11; See ROBERT BOSCH C-4377 FTC, note 273 at 1–2 [Quoting Third Party FTC's Statement on the Public Interest filed on June 6, 2012 in In re Certain Wireless Communication Devices, Portable Music & Data Processing Devices, Computers and Components Thereof, Inv. No. 337-TA-745; and in In re Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof, Inv. No. 337-TA-752].

[498] Petrovcic, note 94 at 1382; Boise 637 F.2d, note 99 (A mere assertion of a possible – theoretical – anticompetitive effect is not sufficient to prove a Section 5 violation. In order to bring a successful action under Section 5, the FTC would have to provide evidence that the SEP owner's licensing practice actually affected in a negative way the success of the standard, increased the costs of standard compliant goods, or that it hindered the undertakings' willingness to participate in the standardization process).

[499] Geradin and Rato, note 11 at 151; Sidak, note 95; Langus, Lipatov, and Neven, note 247.

[500] LUNDQVIST, note 180 at 342.

[501] See EUROPEAN COMMISSION, DIRECTIVE 2004/48/EC ON THE ENFORCEMENT OF INTELLECTUAL PROPERTY RIGHTS 2004 O.J. L 195/16 25 (2004).

6.3.2.1 Orange Book Standard

The Commission construed the act of seeking injunctions as an independent form of abuse and reviewed it under a new legal standard.[502] The proposed test hinges on whether the injunction is sought against a 'willing licensee.' If the technology implementer is ready to take a license, there is an unlawful abuse. In contrast, seeking injunctions against an unwilling licensee would remain lawful.[503]

The Orange Book Standard case introduced the notion of the willing licensee by asking whether, a patentee could get injunctive relief following a patent infringement suit when the infringer had tried to obtain a patent on commercial grounds, but the patentee had refused to license.[504]

The German Federal Supreme Court concluded that a defendant might plead successfully that the patentee is abusing its dominant position in the market if the latter refuses to enter into a patent license agreement with the defendant on nondiscriminatory and non-restrictive terms and conditions.[505]

Two conditions must be met for a licensee to qualified as willing to license. First, the defendant must have made the SEP holder 'an unconditional offer to conclude a license agreement which the patent proprietor cannot reject.' Second, the potential licensee must have complied with the obligations on which the use of the licensed subject matter depends. The licensee must 'pay the royalties resulting from the contract or ensure their payment in escrow.[506]

A critical feature of Orange Book Standard is that the licensee's willingness is not merely inferred from explicit statements. Acts of fulfillment are needed: a 'serious' offer, and subsequent conduct in the form of anticipative payments. In general, this was view as a very tight defense and was subsequently criticized by the doctrine.

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[502] Petit, note 362 at 690 (It is not uncommon for the EU judicature to identify new abuses); See e.g. CASE 6/72 CONTINENTAL CAN, note 108 (Held it abusive for a dominant firm to acquire a competitor); See e.g CASE C52/09 TELIASONERA, note 345 (Considered that a margin squeeze 'constitute[s] an independent form of abuse distinct from that of refusal to supply); See e.g. CASE C-457/10 ASTRAZENECA, note 109 (Expanded the list of known abuses, by holding that submission of 'objectively misleading).

[503] Petit, note 362 at 691; See also Michael Fröhlich, HOW DO EUROPEAN COURTS LOOK AT FRAND AND SEPS (2015), http://www.unige.ch/droit/internet-disputes/OnlineResources/frohlich.pdf (last visited May 13, 2016).

[504] LUNDQVIST, note 180 at 320; See also Fröhlich, note 503.

[505] LUNDQVIST, note 180 at 320; Orange Book Standard Case, Bundesgerichtshof [BGH] [Federal Court of Justice] May 6, 2009 KZR 39/06 (2009).

[506] Petit, note 362 at 692.

6.3.2.2 Case Samsung and Case Motorola

The commission rendered two decisions; one in Samsung and the other in Motorola Mobility, establishing a framework for determining whether and under what circumstances patent owners seeking to enforce SEP in the European Union may violate the law.

6.3.2.2.1 Case Samsung

In Samsung, the EC accepted commitments that the firm will, for five years, not seek injunctive relief in the European Economic Area (EEA) on any of its Mobile SEP against licensees who commit to a specified licensing framework.[507] Under the framework, after a negotiation period of up to 12 months, any dispute over FRAND terms for the Mobile SEP in question will be resolved by a court, or if both parties agree, by an arbitrator.[508]

Moreover, Samsung is permitted to file a claim for injunctive relief if: (1) the potential licensee fails to agree or comply with the provisions of the licensing framework; (2) the potential licensee is facing imminent default (e.g., winding up or dissolution); (3) the potential licensee has filed and maintains a claim for injunctive relief in the EU against Samsung or customers of Samsung for a mobile device or component thereof that is made, marketed, distributed, or sold by Samsung, based on infringement of any of the potential licensee's Mobile SEP, when Samsung has offered to be bound by the licensing framework; or (4) Samsung terminates a unilateral license or cross-license in response to a potential licensee filing a claim for injunctive relief in the EU against Samsung based on infringement of Mobile SEP, when Samsung has offered to be bound by the licensing framework.[509]

A potential licensee can also choose not to sign up to the licensing framework. In such a case, the potential licensee cannot be automatically regarded as unwilling to enter into a license agreement on FRAND terms and conditions. Rather, the court or tribunal called upon to grant injunctive relief would need to evaluate all the circumstances of the case at hand in order to decide whether a potential

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[507] Commission Decision Summary 2014/C 350/08 (Case AT 39939 - Samsung), 2014 OJ C 350, 9 (18) (2014) [Under Samsung's commitments, "Mobile SEP" is defined as "a patent (including existing and future members of its family in the EEA) granted in the EEA that is or may become, and remains, Essential to any Mobile Standard in at least one EEA Contracting Party and which has been declared as such to an SSO."] .

[508] Id. at 9 (15-16). (The exceptional circumstance is the standard-setting process and Samsung's commitment to license its UMTS SEP on FRAND terms and conditions. An absence of objective justification relates to the fact that the potential licensee, Apple, was not unwilling to enter into a license agreement on FRAND terms and conditions.).

[509] Koren Wong-Ervin, *Standard-Essential Patents: The International Landscape*, INTELLECTUAL PROPERTY COMMITTEE NEWSLETTER (ABA SECTION OF ANTITRUST LAW), 2014, https://www.ftc.gov/system/files/attachments/key-speeches-presentations/standard-essential_patents_the_intl_landscape.pdf (last visited May 18, 2016).

licensee is indeed unwilling to enter into an agreement on FRAND terms and conditions.[510]

6.3.2.2.2 Case Motorola

In Motorola, the EC found that seeking and enforcing an injunction against Apple on a FRAND-encumbered SEP constituted an abuse of a dominant position where Apple had agreed to be bound by a court's determination of the FRAND royalties. The EC ordered Motorola "to eliminate the adverse effects resulting from" its conduct.[511] The EC says the decision provides a "safe harbor" for standard implementers who are willing to agree that a court or a mutually agreed arbitrator adjudicates the FRAND terms, and to be bound by such determination.[512] The EC also found anti-competitive Motorola's insistence, under the threat of the enforcement of an injunction, that Apple gives up its rights to challenge the validity or infringement by Apple's mobile devices of MMI SEP. The EC did not find Motorola reasoning that there is no EU case law on the issue and European national courts have reached different conclusions on the issue.[513]

- Similarities and Differences with the FTC

The EC's approach is similar to the approach taken by the FTC in Motorola/Google in that, under both approaches: (1) a neutral third-party (either a court or an arbitrator) can set FRAND royalty rates; (2) there is a defensive use exception (however, the EC's defensive use exception requires the SEP- holder to agree that a court or a mutually agreed arbitrator adjudicates the FRAND terms); (3) potential licensees of SEP remain free to challenge the validity, essentiality, or infringement of SEP; and (4) the antitrust agencies do not determine the reasonable royalty rate.[514]

The major differences between the EC's decisions in Samsung and Motorola and the FTC's decision in Motorola/Google are as follows :

- The EC's decisions put the burden on the implementer to show that it is a willing licensee, for example by taking advantage of the safe harbor, whereas the FTC's

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[510] CASE AT 39939 — SAMSUNG STANDARD) 2014 O.J. C 350, note 507 at (9) 20.

[511] Commission Decision Summary 2014/C 344/06 (Case AT 39985 - Motorola), 2014 OJ C 344, 7 (18) (2014) (The exceptional circumstances are the GPRS standard-setting process and Motorola's commitment to license the GPRS SEP on FRAND terms and conditions. The absence of objective justification relates to the fact that Apple was not unwilling to enter into a licence agreement on FRAND terms and conditions).

[512] CASE AT 39985 — MOTOROLA GRPS STANDARD) 2014 O.J. C 344, note 511.

[513] Id.

[514] Wong-Ervin, note 509.

Consent Decree in Motorola/Google sets up a process that Motorola and Google must follow prior to seeking or enforcing injunctive relief, with the initial burden on Motorola and Google to prove that the licensee is not willing;

- The EC's decisions preclude injunctions only in the EEA, and only on patents granted in the EEA, whereas the FTC's Consent Decree in Motorola/Google covers patents issued or pending in the United States or anywhere else in the world;
- The EC's decisions require a license only to EU patents, whereas the FTC's Motorola/Google consent requires Motorola and Google to offer global licenses;
- The EC's decisions apply to both current and future injunctions, whereas the Motorola/Google Consent Decree did not require the parties to withdraw pending injunctions, but rather prohibited the parties from enforcing existing injunctions or filing future injunctions prior to following the procedures set forth in the Order; and
- Under the EC's decisions, arbitration is required when both parties agree only , whereas, under the Motorola/Google Consent Decree, Motorola and Google have an obligation to offer and commit to arbitration if the licensee wishes to arbitrate instead of seeking a FRAND declaration in court.[515]

6.3.2.3 Case Huawei

On July 16, 2015, in Huawei Technologies, consistent with the European Commission's decisions in Motorola and Samsung, the CJEU endorsed a broad theory of harm. Under this method, a dominant SEP holder would infringe Article 102 TFEU whenever it sought injunctive relief against a firm that acts in good faith to negotiate a license on FRAND terms, regardless of the competitive relationship between the parties.[516]

However, a close reading of the judgment—corroborated by the decision of the CJEU not to follow the Opinion of its Advocate General (AG) Melchior Wathelet in certain key respects—reveals that the CJEU has in mind a much narrower theory of antitrust harm, more in line with that established in the

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[515] Id.

[516] Sean-Paul Brankin, Salome Cisnal De Ugarte & Lisa Kimmel, *Huawei: Injunctions and Standard Essential Patents—Is Exclusion a Foregone Conclusion?*, 30 ANTITRUST MAGAZINE, 2015, at 80, http://www.americanbar.org/content/dam/aba/publications/antitrust_magazine/anti_fall2015_brankin_ugarte_kimmel.authcheckdam.pdf (last visited May 18, 2016); See also Nicholas Banasevic, *The Implications of the Court of Justice's Huawei/ZTE Judgment*, 6 J. EUR. COMPET. LAW PRACT. 463 (2015), http://jeclap.oxfordjournals.org/content/6/7/463 (last visited Aug 24, 2015).

CJEU's essential facilities case law. Specifically, and in contrast to the European Commission's finding in Motorola, it seems that the effect of the abusive behavior must be to exclude "products manufactured by competitors" and possibly to "reserve to itself the production of the goods in question".[517]

The court rejected both the German's Orange Book Standard and the European Commission's approach on Samsung and Motorola. To strike a balance in concrete terms, the CJEU described the circumstances in which the owner of a SEP subject to a FRAND commitment may pursue an injunction without the risk of running afoul of Article 102 TFEU.[518]

6.3.2.3.1 The Right for Injunction Is Not Unlimited

The ruling stated that a SEP is different from other patents and hence that the consideration of when the exercise of SEP may be abusive should be distinguished from the refusal to supply line of cases (e.g. Magill, IMS Health). [519]

These features occur, first, because the patent at issue is essential to a given standard, and second, because the patent in dispute obtained SEP status only in return for the proprietor's irrevocable undertaking, given to the standardization body in question, that it is prepared to grant licenses on FRAND terms.[520] The judgment, therefore, recognizes the central nature of the commitment to license on FRAND terms that the SEP holder has given to the standardization body.[521]

The Samsung and Motorola decisions created a safe harbor approach from injunctive relief, under which implementers can demonstrate that they are a willing licensee by agreeing that a court or a

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[517] CASE C-170/13 HUAWEI TECHNOLOGIES, note 109; Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 80; See also JOINED CASES C-241/91 P & C-242/91 MAGILL, note 125; CASE C-481/01 IMS HEALTH, note 359.

[518] See Case C-170/13 Huawei Technologies, note 109 (The CJEU stated the following conditions to avoid antitrust liability: [1] SEP holders must alert SEP users of the alleged infringement [notice obligation]; [2] SEP users must indicate a willingness to conclude a license on FRAND terms; [3] SEP holders must present a detailed written offer for a license on FRAND terms [offer obligation]; [4] SEP users must respond promptly and in good faith, without engaging in delaying tactics; [5] If the SEP user does not accept the offer, it must submit, promptly and in writing, a specific counter-offer on FRAND terms; [6] If no agreement is reached, a SEP user that is already using the technology must provide appropriate security and be able to render accounts; [7] The amount of the royalty may, by common agreement, be determined by an independent third party; [8] SEP users can challenge validity, essentiality, and infringement in parallel to licensing negotiations and also after conclusion of the license agreement).

[519] See e.g. JOINED CASES C-241/91 P & C-242/91 MAGILL, note 125; See e.g. CASE C-481/01 IMS HEALTH, note 359; See also Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 83.

[520] Banasevic, note 516 at 463.

[521] Cleary, Gottlieb, Steen & Hamilton LLP, ENFORCING STANDARD-ESSENTIAL PATENTS – THE EUROPEAN COURT OF JUSTICE'S JUDGMENT IN HUAWEI V ZTE ALERT MEMORANDUM (ANTITRUST AND COMPETITION) 1 (2015), http://www.cgsh.com/enforcing-standard-essential-patents-the-european-court-of-justices-judgment-in-huawei-v-zte/ (last visited May 13, 2016); See also Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 80.

mutually agreed arbitrator shall adjudicate the fair, reasonable and non-discriminatory ("FRAND") terms if negotiations fail. In contrast, the CJEU does not afford SEP users a "safe harbor" protecting them against injunctions by agreeing to have disputed FRAND terms determined by an independent third party.[522] Instead, national courts will have a more significant role in deciding whether each party's license offer is FRAND and whether the parties are acting in good faith, taking into account all the circumstances of the case. This change represents a slight shift back towards protecting intellectual property rights, but at the same time, it confirms that rights to injunctions are curtailed where the patentee has created legitimate expectations that it will license on FRAND terms.[523]

6.3.2.3.2 Type of Antitrust Harm

As stated, Article 102 provides a non-exhaustive list of abuses. The use of remedies would amount to an abuse usually categorized as a 'refusal to supply.' The argument points to the CJEU viewing the use of remedies as an exclusionary harm. Similarly, the court's differential treatment of injunctions/product recalls on the one hand, and damages/account of profits on the other also points towards exclusionary harm.[524]

However, an even higher standard will apply in the context of particular categories of abusive behavior. In the framework of the so-called essential facilities cases concerning refusals to supply (or license) a new customer, a finding of abuse requires that the dominant undertakings "by their conduct, reserved to themselves the secondary market . . . by excluding all competition on that market."[525]

Huawei's dominant position was not in dispute. The court decided not to address the issue of dominance, and to limit its analysis to the issue of abuse. Besides, the judgment contains no direct discussion of the theory of competitive harm that justifies antitrust intervention.[526] Nonetheless, a close reading of the ruling suggests that significant exclusionary harm is necessary to establish abuse,

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[522] See Koren W. Wong-Ervin, *The European Commission's Safe Harbor Approach to the Seeking of Injunctive Relief on FRAND Encumbered SEPs*, 12 MONOP. MATTERS ABA SECT. ANTITRUST LAW (2014), http://www.ftc.gov/system/files/attachments/key-speeches-presentations/wong-ervin_-_ecs_safe_harbor_approach_-_fall_2014.pdf (last visited May 18, 2016) (Referring to the Samsung and Motorola Cases. "The decisions create a safe harbor approach from injunctive relief, under which implementers can demonstrate that they are a willing licensee by agreeing that a court or a mutually agreed arbitrator shall adjudicate the fair, reasonable and non-discriminatory ['FRAND'] terms in the event that negotiations fail").

[523] Cleary, Gottlieb, Steen & Hamilton LLP, note 521 at 2.

[524] See Sam Abbould, Are Remedies for Breaching Standard Essential Patents Prohibited by Article 102 TFEU? European Law Blog (2015), http://europeanlawblog.eu/?p=2814 (last visited Aug 24, 2015).

[525] See e.g. JOINED CASES C-241/91 P & C-242/91 MAGILL, note 125; Case C-7/97 Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG (Oscar Bronner), 1998 ECR I 7791 (1998); CASE C-481/01 IMS HEALTH, note 359.

[526] Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 83.

and the brevity of the discussion of harm is primarily a reflection of the underlying facts of the case. Specifically, the fact that ZTE was manifestly unwilling to negotiate a FRAND license drove the CJEU to focus on that issue—which was determinative of the outcome of the case—rather than the explanation of the type of harm that could have given rise to abuse in other circumstances.[527]

As stated by the CJEU, the exercise by the proprietor of the SEP of its IPR, by bringing actions for a prohibitory injunction or the recall of products, may be characterized, in certain circumstances, as abuse. For instance, where those proceedings are liable to prevent products complying with the standard in question manufactured by competitors from appearing or remaining on the market.[528]

The proprietor of the essential patent at issue has the right to bring an action for a prohibitory injunction or the recall of products. Although, the fact that patent has obtained SEP status means that its proprietor can prevent products manufactured by competitors from appearing or remaining on the market and, thereby, reserve to itself the production of the goods in question.[529]

The emphasis on the exclusion of competitor products is the basis for a finding of abuse. In this regard, they represented an express departure from the assessment proposed by AG Wathelet in his Opinion in the case, based on exploitation rather than exclusion and relied on an analogy with a license of the right to all comers. This viewpoint would imply that abuse would occur whenever injunctive relief was sought against any willing licensee, not just a competitor. Instead, the CJEU judgment expressly adopts a narrower, and exclusionary, analysis of abuse.[530]

Furthermore, the CJEU's reference to the effect of the SEP's behavior being to "reserve to itself the manufacture of the products in question" is a direct echo of the CJEU's language in Magill (the dominant undertaking[s] must have "by their conduct, reserved to themselves the secondary market … by excluding all competition on that market).[531] The implication would appear to be that the standard of foreclosure in these cases is not the limited requirement that "access be made more difficult" by Intel but the higher "exclusion of all competition" standard in essential facilities cases.

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[527] Id. at 83.

[528] CASE C-170/13 HUAWEI TECHNOLOGIES, note 109 at 73; See Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 83.

[529] CASE C-170/13 HUAWEI TECHNOLOGIES, note 109 at 52; See Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 83.

[530] Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 84; See AG Wathelet Opinion CASE C-170/13 HUAWEI TECHNOLOGIES, note 109 at 65 (The commitment given by Huawei in the dispute before the referring court to grant licenses to third parties on FRAND terms bears some similarity to a "license of right." Pointing out that, where a patent licensee has a license of right, an injunction may not, in principle, be issued against him.), See AG Wathelet Opinion *Id.* at 73. (On the one hand a relationship of dependence between the IPR holder occupying a dominant position and other undertakings and, on the other, to the abusive exploitation of that position by the right holder through recourse to methods different from those governing normal competition.).

[531] See Joined Cases C-241/91 P & C-242/91 Magill, note 125 at 56.

Given that the Huawei case also involves a delicate balancing of interests to justify an interference with property rights, and the CJEU's express recognition of the need for that balance, the application of a higher standard would seem warranted.[532]

Finally, the decision avoided a major issue – raised by the Dutch government at the oral hearing and considered by AG Wathelet in his opinion – of whether a SEP holder is (per se) in a dominant position by having a patent that is essential to a standard.[533] It is not clear when a SEP holder will be considered dominant. For Cotter, ownership of a SEP does establish dominance in the market for the (very specific) technology at issue, given that, if the patent is standard-essential, there is no substitute for it though conceivably there could be competing standards, which would complicate the analysis.[534]

6.3.2.4 Post Huawei

While some issues remain unresolved, the decisional practice of the Commission and the case-law of the CJEU have clarified some important issues linked to the application of competition law to the licensing of SEPs. Because of the enormous financial interests at stake, the Commission and the courts will continue to be involved in licensing disputes in the years to come and given the creativity of SEP holders in finding new ways to monetize their patents new issues will emerge in the future. From a policy standpoint, it seems fundamental to maintain a balance between the interests of SEP holders and standard implementers as both sides are needed to maintain the continued success of standardization in Europe and beyond.[535]

6.3.3 Injunctions in Japan (Samsung and the New IP Guidelines)

In May 2014, The Japan Intellectual Property High Court stated that in relation to a SEP, it is not appropriate to allow a party who made a FRAND declaration to exercise the right to seek an injunction based on the patent right against a party willing to obtain a license under FRAND terms.[536]

According to the court, the injunction should be allowed when a party engaged in manufacturing, or sales of a standard-compliant product without any intention of receiving a FRAND license. As such

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[532] Brankin, Cisnal De Ugarte, and Kimmel, note 516 at 84.

[533] Cleary, Gottlieb, Steen & Hamilton LLP, note 521 at 4; CASE C-170/13 HUAWEI TECHNOLOGIES, note 109 at 57 (Advocate General Wathelet Opinion).

[534] Thomas Cotter, Huawei v. ZTE: Analysis Comparative Patent Remedies (2015), http://comparativepatentremedies.blogspot.jp/2015/07/huawei-v-zte-analysis.html (last visited Jul 17, 2015).

[535] See Damien Geradin, European Union Competition Law, Intellectual Property Law and Standardization, in Cambridge Handbook on Technical Standardization Law (Jorge Contreras ed., 2016).

[536] Case 2013 (Ne) 10043 (Japan), note 19.

party with no intention of obtaining a FRAND license is not considered to comply with the standards relying upon the FRAND declaration, and the patentee would not be adequately protected if the exercise of the right to seek an injunction even against such parties is restricted.[537]

The court decision was based on the abuse of right doctrine.[538] The court's approach is that a FRAND commitment deprives the patent owner of the right to obtain an injunction unless the licensee is the one that is abusing the process. The Japanese court's approach is closer in spirit to the U.S. approach under eBay than to the European Commission and German approaches to addressing the issue through the lens of competition law.[539]

According to the court, Samsung was not entitled to an injunction for the unauthorized use of its FRAND-committed patents. As long as Apple was a willing licensee (and he notes that, on the issue of injunctive relief, the Court appears to place the burden of showing that Apple was a willing licensee on Apple, the defendant).[540] Also, In Imation Corporation Japan, the defendant is the manager/operator of a patent pool relating to Blue-Ray disc products. Some of the patents are standard-essential. Defendant sent a notification to three retailers that they were infringing these patents and that the patentee had a right to seek injunctive relief. In response, the plaintiff (described as a business partner of the recipients of the notification) sued for unfair competition, arguing that the act of seeking an injunction for the infringement of a FRAND-committed SEP against a willing licensee is an abuse of right under the Apple v. Samsung precedent.[541]

Moreover, on January 21, 2016 the Japan Fair Trade Commission ("JFTC") published revisions to its guidelines for the Antimonopoly Act ("AMA"). The new guidelines make it a fair-trade practice

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[537] Id.; See Thomas Cotter, Some Initial Thoughts on the Japanese IP High Court's Apple/Samsung Judgments Comparative Patent Remedies (2014), http://comparativepatentremedies.blogspot.jp/2014/09/some-initial-thoughts-on-japanese-ip.html (last visited Feb 17, 2015).

[538] See JAPANESE CIVIL CODE (MINPŌ), 246 art. 1 (3) (1896), http://www.moj.go.jp/content/000056024.pdf; See Kazuaki Sono & Yasuhiro Fujioka, *The Role of the Abuse of Right Doctrine in Japan*, 35 LA. LAW REV. 1038 (1975), http://digitalcommons.law.lsu.edu/lalrev/vol35/iss5/5 (last visited May 18, 2016).

[539] See Cotter, note 537; See also Tsuyoshi Uchida, *The Exercise of Essential Patents for Standards (II)*, 22 IIP BULL. INST. INTELLECT. PROP. RIGHT 1 (2013), http://www.iip.or.jp/e/e_summary/pdf/detail2012/e24_01.pdf (last visited May 18, 2016); See also Masahiro Shimizu & Tsuyoshi Uchida, *The Exercise of Essential Patents for Standards*, 21 IIP BULL. INST. INTELLECT. PROP. RIGHT (2012), http://www.iip.or.jp/e/e_summary/pdf/detail2011/e23_01.pdf (last visited May 18, 2016); See also Carol Mullings Hayes, *Commitments to License on Fair, Reasonable, and Nondiscriminatory Terms: Comparing the Japanese Approach to Technology Standards with Emerging Trends around the World*, 24 IIP BULL. INST. INTELLECT. PROP. RIGHT 62 (2014), https://www.iip.or.jp/e/e_summary/pdf/detail2013/e25_08.pdf (last visited May 18, 2016).

[540] See Thomas Cotter, JAPAN'S TWO FRAND CASES COMPARATIVE PATENT REMEDIES (2016), http://comparativepatentremedies.blogspot.jp/2016/01/japans-two-frand-cases.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed:+ComparativePatentRemedies+(Comparative+Patent+Remedies+) (last visited Jan 16, 2016); See also Case 2013 (Wa) 21383 (Japan), Tokyo Chiho Saibansho] (2015).

[541] See Cotter, note 540.

violation for holders of a standard essential patent ("SEP") with fair, reasonable, and non-discriminatory ("FRAND") obligations to refuse to license or bring an injunctive action against a willing licensee of their SEP.

According to the JFTC, the IP guidelines have limited descriptions of the acts found to constitute an exercise of right on its face (for example, claim for an injunction by the patent holder) and any principle about those cases under the Antimonopoly Act is not given.[542]

The amendment specifies that seeking injunctive relief to enforce a FRAND-encumbered SEP against a party that is willing to take a license on FRAND terms "may" constitute an unlawful exclusion of business activities in violation of Article 3 of Japan's Antimonopoly Act (AMA) (Draft Amendment Part 3(1)(e)). Also, it could constitute an unfair trade practice in violation of Article 19 of the AMA (Draft Amendment Part 4(2)(iv)). The Draft Amendment further specifies that liability may attach regardless of whether the conduct is taken by a patent holder that makes the FRAND commitment, by a party that accepts assignment of the FRAND-encumbered SEP, or by a party who is "entrusted to manage" the FRAND-encumbered SEP.[543]

6.4 Chapter Summary

A SEP holder that has committed to license on FRAND terms and then refuse to license; request an excessive price or seeks to use injunctive relief, as leverage in negotiations to obtain an unjustifiably higher royalty than would have been possible ex-ante could incur in anti-competitive conduct.

These conducts could lead to impeding or hindering the distribution of an end product, or to establishing a royalty rate not according to the value of the patent, after the costs of designing, producing, and distributing the final product have been sunk.

The threat of hold-up arises from the possible difficulty and expense of switching to a different technology once a standard is adopted.

Applying existing principles and precedents suggest that the application of competition legislation might lead to different outcomes depending on the jurisdiction. First, the SEP owner's might face a different liability for refusing to license its SEP. The SEP owner's refusal to license might constitute an abuse of a dominant position in violation of Article 102 TFEU if the exceptional circumstances

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[542] JAPAN FAIR TRADE COMMISSION, SURVEY ON ISSUES RELATED TO ESSENTIAL PATENT (TENTATIVE TRANSLATION) 1 (2015), http://www.jftc.go.jp/en/pressreleases/yearly-2015/July/150708.files/150708.pdf (last visited Oct 12, 2015).

[543] JAPAN FAIR TRADE COMMISSION, GUIDELINES FOR THE USE OF INTELLECTUAL PROPERTY UNDER THE ANTIMONOPOLY ACT (AMMENDMENT 2015) (DRAFT) 3 (1) (e)-4 (2) (iv) (2015), http://www.jftc.go.jp/en/pressreleases/yearly-2015/July/150708.files/150708.pdf (last visited Oct 12, 2015).

requirement is met. Liability could arise even if the SEP owner has not committed to license its SEP under FRAND terms. In the United States, the outcome is less clear. Courts have been reluctant to consider a refusal to license anti-competitive, and the same pattern might be adopted in the context of SEP. In the case of Japan, refusal to license IPR is a legitimate exercise of rights; however, if such refusal is found to deviate from or run counter to the intent and objectives of the intellectual property systems it is not recognizable as an exercise of rights. This interpretation is consistent with the reading given to Article 21 of the antitrust law, regarding the exemption of competition legislation applicability about intellectual property rights.

Relating the approach to the SEP owners' imposition of exploitative licensing conditions, the studied jurisdictions have an even more different approach. A licensing practice that has mere exploitative effects does not constitute an anticompetitive conduct under the Sherman Act: It is not a harmful conduct that the antitrust law aims to prevent. Consequently, it is unlikely that the SEP owner would face a liability under section 2 for holding up manufacturers and imposing on them onerous licensing conditions. On the contrary, a SEP owner that imposes exploitative licensing terms on the manufacturer is more likely to face a liability under EU competition law, since Article 102 TFEU prohibits not only practices that have exclusionary effects but also those that result in mere exploitation. However, the intervention towards exploitative practices remains controversial. Even under EU competition law, where Article 102 TFEU provides the legal basis to address a vast spectrum of licensing practices, the desirability of such intervention remains questionable. The lack of a clear legal test that would allow the distinction between high, but legitimate licensing fees, and those that are exploitative, inject legal uncertainty regarding the intervention, opens the door for the erroneous decision, and favors the strategic use of anti-competitive claims.

Finally, The FTC did challenge some exclusionary practices as a section 5 stand alone offense. In particular, it applied the provision to address the SEP owner's use of injunctions. The cases have been however concluded with consent decrees, without determining whether, and under which conditions, the imposition of exclusionary conditions could trigger liability under section 5 of the FTCA. No precedent has thus determined what terms could constitute a stand-alone offense of section 5 of the FTCA.

In the EU, Huawei v ZTE ruling sets out an elaborate framework that SEP holder and implementer must respect, to avoid breaching Article 102 TFEU or avert injunctive relief, respectively. Huawei represents a satisfactory compromise in practice, but its theoretical foundation in competition law and applicability is not solid. Subsequent jurisprudence has unmoored Huawei from competition law and is turning it into a stand-alone lex-specialis for injunctions in FRAND cases. In the longer run, legislative intervention might be preferable to de facto harmonization via competition law.

In Japan, both the doctrine and the legislator stated that about a SEP, it is not appropriate to allow a party who made a FRAND declaration to exercise the right to seek an injunction based on the patent right against a party willing to obtain a license under FRAND terms.

The differences in addressing the SEP owner's strategic licensing practices are not particularly surprising, given that similar divergences can be found outside the SEP context. The different approach towards exclusionary practices is present also in other areas. What is perhaps more interesting is an increasing attention for exploitative licensing practices. For a long time, exploitative abuses have been considered as not being a relevant antitrust concern. The situation seems to be different in the context of SEP's, where competition authorities have shown their willingness to intervene.

7 Chapter 7: Antitrust Remedies and Intervention in the SEP Context

This chapter evaluates the remedies that can be imposed on a SEP owner that violates competition law. At first, we discuss the remedies goals in antitrust, second, we will describe the types of antitrust remedies and its application, and finally, we will review the type of remedies used in cases involving SEP owner alleged anticompetitive behavior.

7.1 Remedies Goals in Competition Law

Antitrust remedies aim at several goals. One of the primary objectives of the antitrust intervention is to stop the anticompetitive conduct and repair the immediate damage to competitive markets.[544] Furthermore, the intervention aims at a more general purpose: to prevent the recurrence of anticompetitive practices by the same undertaking (specific deterrence), as well as to deter other markets participants from engaging in similar conducts (general deterrence).[545] The most direct tool is the imposition of a monetary sanction on the violator, either through a fine or through damages awards that result from private litigation.[546] The prospect of facing high financial loss through fine or damages will deter both the violator and other companies from engaging in anti-competitive practices. Behavioral or structural remedies might also have a deterrent effect.[547]

7.2 Antitrust Remedies in Comparative Law

Other goals of antitrust intervention are evident when the antitrust remedy is negotiated between the parties as part of the settlement procedure. The word settlement is used to refer to both settlements between private parties as well as settlements with public prosecutors. In the EU settlements are called commitment decisions while in the US they are called consent agreement order or decree. Therefore, both jurisdictions provide the possibility to end the antitrust procedure with a

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[544] EUROPEAN COMMISSION, COUNCIL REGULATION 1/2003 ON THE IMPLEMENTATION OF THE RULES ON COMPETITION LAID DOWN IN ARTICLES 81 AND 82 OF THE TREATY 2003 O.J. L 1/1 Art. 7 (2002) (Where the commission finds that there is an infringement of article 101 or article 102 of the treaty, it may impose remedies necessary to bring the infringement effectively to an end.) ; See also GRINNELL 384 US, note 84 at 577 (The aim of the antirust remedy is to stop the act of monopolization or attempted monopolization, and in this way bring the anticompetitive practice to an end.); United States v. United Shoe Machinery Corp., 391 U.S. 244, 250 (1968); EAGLES AND LONGDIN, note 405 at 62.

[545] See e.g. Tex. Indus. v. Radcliff Materials, 451 U.S. 630, 639 (1981); EUROPEAN COMMISSION, GUIDELINES ON THE METHOD OF SETTING FINES IMPOSED PURSUANT TO ARTICLE 23(2)(A) OF REGULATION NO 1/2003 2006 O.J. C 210/2 4 (2006); See also A. Douglas Melamed, *Afterword: The Purposes of Antitrust Remedies*, 76 ANTITRUST LAW J. 359 (2009), http://www.jstor.org/stable/40843712 (last visited May 1, 2017).

[546] See Simon Vande Walle, *Private Enforcement of Antitrust Law in Japan: An Empirical Analysis*, 8 COMPET. LAW REV. (2011), http://www.clasf.org/CompLRev/Issues/Vol8Issue1Art1Walle.pdf (last visited May 18, 2016); Koki Yanagisawa, PRIVATE LITIGATION (JAPAN) GLOBAL COMPETITION REVIEW (2016), http://globalcompetitionreview.com/jurisdiction/1000475/japan (last visited Feb 8, 2017).

[547] Petrovcic, note 5 at 142.

settlement.[548]

In the case of Japan, a civil dispute that may be resolved by a settlement between the parties is arbitrable under the Arbitration Law of Japan. Therefore a private antitrust dispute is also arbitrable under such law.[549]

In the public sphere, before a 2005 reform, the JFTC needed to make an admonishment before it issued a binding order, and the respondent had the option to accept the admonishment as it looks into close the case sooner. After the reform, there is no formal settlement procedure between undertakings and the JFTC under the Antimonopoly Act.[550]

An amendment to the Antimonopoly Law introducing a voluntary resolution system, however, is being proposed by the government by the Trans-Pacific Partnership (TPP) article 16.2.5 and come into force as of the date when the TPP becomes effective in Japan. It appears to be based on the commitment decision system of the EU. It is expected that competition concerns can be resolved more quickly with expanded cooperation between the JFTC and companies under this new voluntary resolution system.[551]

The remedies agreed through antitrust settlements might depart considerably from those that could be adopted through an infringement decision or adjudicatory process.[552] Particularly remedies

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[548] See EUROPEAN COMMISSION, note 544; See also e.g. Douglas H. Ginsburg & Joshua D. Wright, *Antitrust Settlements: The Culture of Consent*, 1 *in* WILLIAM E KOVACIC: AN ANTITRUST TRIBUTE LIBER AMICORUM - VOLUME I (Nicolas Charbit & Elisa Ramundo eds., 1 ed. 2012); MARIO MARINIELLO, COMMITMENTS OR PROHIBITION? THE EU ANTITRUST DILEMMA (2014), http://bruegel.org/2014/01/commitments-or-prohibition-the-eu-antitrust-dilemma/ (last visited Jun 6, 2016); Nielsen Holdings N.V., and Arbitron Inc. (Wright Statement), FTC Docket C-4439 Sept. 13 2013, 6 (2013).

[549] See Yanagisawa, note 546.

[550] See Kojiro Fujii, Tatsuya Tsunoda & Kozo Kawai, Antimonopoly & Unilateral Conduct (Japan) Global Competition Review (GCR) (2016), http://globalcompetitionreview.com/jurisdiction/1000455/japan (last visited Nov 23, 2016).

[551] See Nikkei Asian Review, *TPP: Japan Eyes Voluntary Settlements on Competition Violations*, NIKKEI ASIAN REVIEW, October 28, 2015, http://asia.nikkei.com/Politics-Economy/Policy-Politics/Japan-eyes-voluntary-settlements-on-competition-violations (last visited Nov 23, 2016); Prudence Smith, Nick Taylor & Aurore Vande-Kerchove, TRANS-PACIFIC PARTNERSHIP: SIGNIFICANT FROM A COMPETITION PERSPECTIVE OR "NEXT GENERATION" POLITICAL SPIN? — PART 1 COMPETITION & CONSUMER LAW NEWS (JONES & DAY) (2016), http://www.jonesday.com/files/Publication/aa9f7c4e-a38b-434e-bfe5-f761c96b4a2c/Presentation/PublicationAttachment/82fd296d-8b25-4ee3-8a64-4748f1ced6cb/Competition%20and%20Consumer%20Law%20Newsletter%20Vol%2032%20No%207.pdf (last visited Feb 8, 2017); Japan Fair Trade Commission (JFTC), SUMMARY OF ISSUES CONCERNING THE MODALITY OF THE ADMINISTRATIVE SURCHARGE SYSTEM (2016), http://www.jftc.go.jp/en/pressreleases/yearly-2016/July/160713_2.files/160713_2.pdf (last visited May 18, 2016) (The procedure under the system would proceed as follows: [i] Investigation begins, [ii] written notice containing a description of suspicions, etc, is served by the JFTC, [iii] the suspected companies voluntarily draft and apply a plan to cease and desist the conduct at issue, [iv] the JFTC reviews whether it is sufficient to assuage competition concerns and whether the suspected companies will put such plan into action and [v] the JFTC adopts or rejects the plan. In the case of the JFTC adopting the plan, whether the conduct at issue violates the AML will not be determined [no fines and surcharges]. Unlike with a consent decree or consent order in the US or a commitment decision system in the EU, there will not be a procedure for collecting public comments.); JOSHUA D. WRIGHT ET AL., COMMENT ON THE JAPAN FAIR TRADE COMMISSION'S CONSULTATION ON THE ADMINISTRATIVE SURCHARGE SYSTEM (2016), https://papers.ssrn.com/abstract=2819571 (last visited Nov 9, 2016).

[552] See e.g. Giorgio Monti, *Managing the Intersection of Utilities Regulation and EC Competition Law*, 4 COMPET. LAW REV. (2008),

agreed with competition authorities often do not only aim at terminating the anticompetitive conduct and at preventing its reoccurrence but also aim to stop the harm that arises from the challenged conduct. As a result, they might aim at more specific goals, such as facilitating entrance into the market, fostering competition, rendering the market more competitive, or protecting the system from the unlawfully exercise market power.[553]

Finally, the EU, US, and Japan provide also remedies that aim at the compensation of victims that suffer a loss because of the violator's anti-competitive conduct. The difference is that in Europe the injured party will have a claim for compensatory damage while in the US the aggrieved party would be able to claim punitive or treble damages. Under Japanese law, damages are compensatory because it is considered fair and sufficient to restore a victim to its original state before the violating act occurred. Therefore, are no punitive or treble damages exist.[554]

7.3 Types of Antitrust Remedies

Antitrust remedies can be divided into two broad groups: behavioral and structural remedies. The first group includes remedies that, as the name suggests, aim to shape the violator's behavior. Behavioral remedies might be either prohibitory or affirmative. The second group of remedies does not focus on the violator's behavior, but rather affects its business structure. The enforcer might, for example, impose on the violator the obligation to divest part of its business.[555]

7.3.1 Prohibitory Behavioral Remedies

Prohibitory behavioral remedies, for instance, the cease-and-desist order, prohibit the undertaking to engage in a specific anti-competitive practice. The remedy might prohibit a specific unlawful act, or might include the prohibition to engage in similar conducts that may result in the recurrence of the violation (so- called fencing in provisions). A prohibitory remedy is not difficult to design and

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http://papers.ssrn.com/abstract=1111969 (last visited Jun 6, 2016); Mario Siragusa & Erika Guerri, *Antitrust Settlements under EC Competition Law: The Point of View of the Defendants*, 13 *in* EUROPEAN COMPETITION LAW ANNUAL 2008: ANTITRUST SETTLEMENTS UNDER EC COMPETITION LAW 185 (Claus-Dieter Ehlermann & Mel Marquis eds., 1 ed. 2010).

[553] Erling Hjelmeng, *Competition Law Remedies: Striving for Coherence or Finding New Ways?*, 50 COMMON MARK. LAW REV. 1007, 1019 (2013), https://www.kluwerlawonline.com/abstract.php?area=Journals&id=COLA2013106 (last visited Jun 6, 2016).

[554] See US CLAYTON ACT, note 494 at § 4; See also Case C-453/99 Courage Ltd v Bernard Crehan and Bernard Crehan v Courage Ltd, 2001 E.C.R. 6297, 26 (2001); JAPANESE ANTIMONOPOLY ACT, note 110 at Art. 25, Art 26; Catherine E. Palmer, Daiske Yoshida & Hiroki Kobayashi, *Japan Chapter (Cartels Enforcement, Appeals & Damages Actions)*, *in* CARTELS ENFORCEMENT, APPEALS & DAMAGES ACTIONS (3 ed. 2014); Vande Walle, note 546; OLIVER, note 110 at 500.

[555] See e.g Thibaud Vergé, *Horizontal Mergers, Structural Remedies, and Consumer Welfare in a Cournot Oligopoly with Assets*, 58 J. IND. ECON. 723 (2010), http://onlinelibrary.wiley.com/doi/10.1111/j.1467-6451.2010.00432.x/abstract (last visited Jan 5, 2016); European Council Network (ECN), ECN RECOMENDATION ON THE POWER TO IMPOSE STRUCTURAL REMEDIES (2013), http://ec.europa.eu/competition/ecn/structural_remedies_09122013_en.pdf (last visited May 18, 2016).

administer. It is also unlikely to be overboard, or impose unnecessary inefficiency on the market, given that it typically does not have a significant effect on the violator's structure and functioning in the market. The imposition of a behavioral remedy might nonetheless require the adoption of a monitoring mechanism, given that even after the intervention, the violator might still have the incentive to circumvent the imposed remedy and continue its anti-competitive conduct.[556]

7.3.2 Affirmative Behavioral Remedies

The imposition of prohibitory remedy is not always sufficient to achieve the goals of the antitrust intervention. In some circumstances, the enforcer might have to impose an affirmative behavioral remedy on the violator.[557] Affirmative behavioral remedies are harder to design. The enforcer will have to define precisely the obligation imposed on the violator, a task that usually requires a deeper understanding of the market dynamics.[558] Access remedies are one of the possible affirmative behavioral remedies. They impose on the violator a duty to grant access to the specific facility. Access remedies are considered regulatory in nature, given that they require the enforcer to determine the exact access terms, including the determination of the access price, a function that is performed by regulatory agencies, rather than competition authorities or courts.[559] As other affirmatives remedies, access remedies might also require monitoring mechanisms. In some cases, it might be even necessary to adopt a mechanism that allows the remedy to be adjusted in light of changing market conditions. As a result, access remedies are often considered as the most complex remedies to design and supervise.[560]

7.3.3 Structural Remedies

Structural remedies are easier to administer than behavioral remedies. There is usually no need to adopt monitoring mechanisms that verify whether the violator is still engaging in the anticompetitive practice, given that by changing the violator's business structure, successful structural remedies alter the undertaking's ability and its incentive to participate in anticompetitive conducts.[561] Structural

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[556] See OECD COMPETITION LAW & POLICY, REMEDIES AND SANCTIONS IN ABUSE OF DOMINANCE CASES 244 (2007), http://www.oecd.org/competition/abuse/38623413.pdf (last visited Oct 12, 2015); PETROVCIC, note 5 at 145.

[557] See European Commission, COMMISSION PRESS RELEASE IP/04/382 CONCLUDES ON MICROSOFT INVESTIGATION, IMPOSES CONDUCT REMEDIES AND A FINE (2004), http://europa.eu/rapid/press-release_IP-04-382_en.htm (last visited May 18, 2016) (An affirmative behavioral remedy was imposed when the EU commission ordered Microsoft to un-tie the supply of Windows Media Player program).

[558] Petrovcic, note 5 at 145.

[559] See e.g. TRINKO 540 US, note 388.

[560] Petrovcic, note 5 at 146.

[561] Id. at 146.

remedies are nevertheless very intrusive. They interfere substantively with the violator's existing business models and consequently impose a higher risk of inefficiencies, which can harm the violator, its shareholders, labor, and consumer interests.[562]

7.3.4 Monetary Remedies

Besides behavioral or structural remedies, a company that has violated competition law might also face other consequences. The European Commission can impose on the violator a financial penalty, up to 10% of the violator turnover.[563] In the US, there is no monetary sanction for the violation of section 2. The violator might nonetheless face a comparable financial loss because of treble damages awarded in private damages actions.[564]

7.4 Appropriateness of the Antitrust Remedy

Competition authorities and courts enjoy a significant discretion in selecting the antitrust remedy to be adopted in each case. It is nonetheless possible to observe that several principles govern the selection process.[565]

7.4.1 Type of Antitrust Conduct

Behavioral remedies are more commonly adopted in cases addressing the infringer's unilateral conduct. Also, structural remedies are not rare in the antitrust enforcement. Nevertheless, structural remedies are most prominent in the cases of mergers and acquisitions, where competition authorities consider them effective in addressing the competitive concerns raised during the merger clearance procedure; also they require less supervision.[566] The use of structural remedies is, on the contrary, less common in cases addressing unilateral practices. Courts and Competition authorities have been

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[562] Id. at 146.

[563] EUROPEAN COMMISSION, note 544 at Art. 23.

[564] OECD COMPETITION COMMITTEE (BR), RELATIONSHIP BETWEEN PUBLIC AND PRIVATE ANTITRUST ENFORCEMENT (COUNTRY NOTE) (2015), https://www.ftc.gov/system/files/attachments/us-submissions-oecd-other-international-competition-fora/publicprivate_united_states.pdf (last visited Oct 12, 2015); Mahler Law Firm, PRIVATE TREBLE DAMAGE ACTIONS UNDER FEDERAL ANTITRUST LAW MAHLER LAW FIRM, http://mahlerlawyers.com/publications/private-treble-damage-actions-under-federal-antitrust-law/ (last visited Jun 6, 2016); See Japan Fair Trade Commission (JFTC), note 551; See WRIGHT ET AL., note 551.

[565] Petrovcic, note 5 at 150.

[566] EUROPEAN COMMISSION, COUNCIL REGULATION (EC) 139/2004 ON THE CONTROL OF CONCENTRATIONS BETWEEN UNDERTAKINGS (THE EC MERGER REGULATION) 2004 O.J. L 24/1 (2004); EUROPEAN COMMISSION, COMMISSION REGULATION (EC) 802/2004 IMPLEMENTING COUNCIL REGULATION (EC) 139/2004 ON THE CONTROL OF CONCENTRATIONS BETWEEN UNDERTAKINGS 2004 O.J. L 133/1 (2004); See also Dennis W. Carlton & Ken Heyer, *Extraction vs. Extension: The Basis For Formulating Antitrust Policy Towards Single-Firm Conduct*, 4 ANTITRUST CHRON. COMPET. POLICY INT. 285 (2008), https://www.researchgate.net/publication/281080304_Extraction_vs_Extension_The_Basis_For_Formulating_Antitrust_Policy_Towards_Single-Firm_Conduct (last visited Jun 6, 2016).

more cautious in ordering a division of a company that has always operated as a single entity.[567]

7.4.2 Proportionality

Second, courts and competition authorities should also select a remedy that is proportional to the harm caused by the anticompetitive conduct. The imposition of a harsh, broad remedy is indeed able to stop the anticompetitive conduct and have a strong deterrence. It might however also hinder pro-competitive practices, and through this, harm, rather than protect, competition in the market. The antitrust remedy should thus aim to achieve the goals of the antitrust intervention, without unnecessarily chilling legitimate competitive practices.[568] The principle of proportionality applies when imposing a given remedy, which should not go further than the violation or the threat of violation.[569]

7.4.3 Ease of Implementation

Finally, the imposed antitrust remedy should be easy to administer and do not require an extensive supervision from the enforcer. This consideration seems particularly important in the United States, where the Supreme Court stated that no court should impose a remedy that it cannot adequately and reasonably supervise.[570] It further added that the problem should be deemed irremediable by antitrust law if the remedy requires the court to assume day to day controls characteristics of a regulatory agency.[571] Judge Posner said that the remedy sought is often an important clue to the soundness of the antitrust claim.[572] Therefore, under US law, the difficulty in designing and administrating the antitrust remedy might affect the desirability to intervene in the first place. A remedy that is too difficult to administer suggests that the conduct should not be addressed through antitrust law. The situation, however, is different in EU where the commission have explained that the finding of an antitrust violation is not dependent upon the ease of finding designing a suitable remedy for that conduct.[573] In other words, the difficulty in designing the remedy does not affect the antitrust liability under the Competition law. The preference between the proportionality depends

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[567] United States v. Aluminum Co. of America, 91 F Supp 333, 416 (1950); See also MICROSOFT 253 F.3D, note 92.

[568] See EUROPEAN COMMISSION, note 544 at Art. 7; Int'l Salt Co. v. United States, 332 U.S. 392, 400 (1947).

[569] See INT'L SALT CO. 332 US, note 568; Case T-99/04 AC-Treuhand AG v. Comm'n, 2008 ECR II 1501 (2008).

[570] TRINKO 540 US, note 388 at 415.

[571] Id. at 415.

[572] See Brunswick Corp. v. Riegel Textile Corp., 752 F.2d 261 (1984) (Posner Statement).

[573] See Frank P. Maier-Rigaud, Per Hellstrom & Friedrich Wenzel Bulst, *Remedies in European Antitrust Law*, 76 ANTITRUST LAW J. 43 (2011), http://papers.ssrn.com/abstract=1830110 (last visited Jun 6, 2016).

on which instance is applying the remedy.[574]

7.5 Remedies for the SEP Owner's Deceptive Conduct

United States' Courts have recognized that the SEP owner's deceptive conduct can trigger antitrust liability. These cases triggered the adoption of two types of remedies. In some cases, the remedy prevented the SEP owner from enforcing the SEP that was implemented in the standard by deception.[575] On a different instance, the FTC did not completely prevent the SEP owner from enforcing its SEP, but rather limited the SEP owner's freedom in determining the licensing conditions.[576]

7.5.1 Remedies Objectives

The two types of remedies that the FTC imposed against deceptive conduct have similar objectives. Neither of the remedies aims to stop the anticompetitive conduct, given that the deception took place in the past (during the standardization process) and it had already ended at the time when the remedy was adopted. Both remedies, however, aimed to constrain the use of unlawfully obtained monopoly power.[577]

In doing so, they use different tools. On the one hand the prohibition to enforce the SEP prevented the SEP owner from exercising any market power that might have enjoyed from the SEP. The duty to license a SEP on FRAND terms, on the other hand, is a more lenient remedy. It does not eliminate the SEP's owner ability to generate income for licensing, but only limits it to a reasonable level. Such remedy is nonetheless harder to design, given it requires the enforcer to determine the exact licensing terms and calculate the royalties. It might also require a subsequent revision if the market conditions change, and there is a need to reevaluate the appropriateness of the determined licensing requirements.[578]

7.5.2 Remedies Implementation

At first sight, the choice between the two remedies seems a choice between a remedy that is easier to design, but more intrusive, and a remedy that is more proportional but harder to design and

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[574] Petrovcic, note 5 at 149.

[575] See DELL COMPUTER C-3658 FTC, note 320 (Dell entered a consent agreement pursuant to which the FTC prohibited Dell to enforce its SEP). See also UNOCAL 9305 FTC, note 284.

[576] See Rambus II 522 F.3d, note 75 (This was the case in Rambus. The remedy was subsequently modified by the D.C. Circuit).

[577] Petrovcic, note 5 at 153.

[578] Id. at 153.

administer. A deeper evaluation of the FTC's reasoning nonetheless reveals a different explanation. In the Rambus US case, FTC explained that it had in principle the authority to impose on Rambus a compulsory license on a royalty-free basis, but it considered that the imposition of such remedy was not appropriate given the circumstances of the case. The FTC explained that there was insufficient evidence that absent Rambus deception, the SSO would have implemented in the standards a different technology.[579] It thus considered that completely prohibiting Rambus to enforce its SEP was not appropriate. In other words, the FTC opted for a more lenient remedy, because it is not clear whether the deceptive behavior allowed Rambus to obtain an implementation of its technology in the standards, and consequently acquire market power. Later developments in the case showed that doubts concerning the effect the deceptive behavior had in the standardization process, and on the acquisition of market power, are not a reason for a more lenient remedy, but a reason for the rejection of the antitrust claim.[580] If it is not clear whether the SEP would be implemented in the standard, that is, in the absence of the SEP owner's deceptive conduct no antitrust liability should arise, and no remedy imposed. The statement above suggests that when the evidence supports the finding of antitrust responsibility for the SEP owner's deceptive behavior, the prohibition to enforce the SEP is a more likely remedy.[581]

Policy considerations support the adoption of a strict remedy, such as the prohibition to enforce the SEP. The SEP owner would not have anything to lose in acting deceptively during the standardization process if the only remedy it would face was the duty to license the SEP on FRAND terms, an obligation that the SEP owner that does not act deceptively would have to accept regardless. Some experts argue that the imposition of a strict remedy could deter the participation in the standardizing process. If the SEP owner loses the ability to enforce its SEP, just because of a negligent failure to disclose a patent, the remedy might indeed discourage the SEP owner from participating in the standardization process. It can thus deter a pro-competitive practice. However, this argument disregards the fact that courts have adopted a strict standard of proof when condemning the SEP owner's deceptive practices. No liability arises in a case of involuntary failure to disclose the patent interest. The Court will condemn only cases where the SEP owner engaged in an intentionally deceptive practice, which allowed an anti-competitive acquisition (or maintenance) of market power.[582]

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[579] See Rambus II 522 F.3d, note 75.

[580] Petrovcic, note 5 at 154.

[581] Id. at 154.

[582] Id. at 155.

It is also worth noting that neither of the remedies can fully remove the effects of the SEP owner's anti-competitive conduct. Absent the deception; the SSO would implement an alternative technology in the standards. Technologies that were competing for the implementation of the standards, but were excluded because the SEP owner's deceptive conduct, will not be implemented in the standard. None of the available remedies are thus able to restore the but-for-market.[583]

The inability to restore the but for market is not particularly uncommon in antitrust law. However, the failure to restore the but for market does not indicate that the antitrust intervention against the deception is ineffective. It stills protect consumer from the exercise of an illegitimately obtained market power, and it might have a both specific and general deterrent effect. The inability to restore the but for market after the intervention does nonetheless suggest that it is desirable to develop mechanisms that prevent the SEP owner's deceptive conduct ex ante, that is before, the anticompetitive injury arises. This again weights in favor of the adoption of a stricter remedy, which has a stronger ability to deter future deceptive practice.[584]

7.6 Remedies for the Strategic Use of SEP

Competition authorities and private plaintiff have also challenged the SEP owner's strategic licensing practices, such as departure from a previously made licensing commitment, the imposition of excessive licensing fees, and the use of injunctions. Although those practices were rarely condemned as anticompetitive, remedies were often adopted as part of antitrust settlements. Those cases triggered the application of different antitrust remedies, depending on the effects the challenged conduct imposed on the market.[585]

7.6.1 Prohibitory Remedies

Prohibitory behavioral remedies were often sufficient to address the anticompetitive concerns related to the SEP owner's licensing practice. In cases involving a departure from a previously made licensing practice, the enforcer simply prohibited the SEP owner to depart from licensing commitment made by previous SEP owner.[586]

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[583] Id. at 155.

[584] Id. at 155.

[585] Id. at 155.

[586] NEGOTIATED DATA C-4224 FTC, note 327 (The SEP owner entered in consent order and agreed not to enforce its SEP, unless it first offered a paid-up , royalty free license in exchange for a one-time fee of $1,000, a licensing offer made by the previous SEP owner.); European Commission, COMMISSION PRESS RELEASE MEMO/09/549 ANTITRUST: COMMISSION WELCOMES IPCOM'S PUBLIC FRAND DECLARATION (2009), http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39615 (last visited May 18, 2016) (IPCom declared ready to honor the FRAND commitments made by previous SEP owner.).

Regarding the use of injunctions, the primary concern is that the use of injunctions could allow the SEP owner to hold up manufacturers and force them to accept exploitative licensing terms. Also in those cases, prohibitory remedy was sufficient to address the anticompetitive concerns.[587]

The described prohibitory remedies were not difficult to design and administer. They might nonetheless have significant impact on the market, if applied against a licensing practice that had no anticompetitive effect. For example, if a SEP owner had a legitimate reason to depart from a previously made licensing offer, a prohibitory remedy that prevents a departure from such offer might unduly limit the SEP owner 's ability to obtain a fair compensation for its SEP.[588]

Similarly, the prohibition to use an injunction against an infringer of SEP might have negative consequences, if applied in inappropriate circumstances. Although the SEP owner might use the injunction opportunistically, as a tool to hold up manufacturers. It is also possible that the SEP owner uses the injunction for a legitimate purpose. The SEP owner might use the threat of an injunction as a tool to coerce an unwilling licensee to enter into licensing negotiation. A remedy that unduly prevents the SEP owner' use of an injunction could distort the negotiation process. An antitrust intervention that unduly limits the SEP owner's ability to obtain an injunction would stimulate free riding on the side of the manufacturer. At the same time, it would diminish the SEP owner ability to enforce its SEP promptly. A delay of the SEP owner's compensation might, in turn, decrease both the SEP owner's ability and incentives to invest in innovation, as well as the willingness to contribute its technologies to an SSO further. Some companies have in fact emphasizes that, because of the difficulty in enforcing their SEP, they have stepped back from the standardization process, by either not joining certain SSO or not contributing certain technologies to the discussed standards.[589]

Therefore, although prohibitory remedies are often perceived as mild, and having limited effects on the market, they might in some circumstances deter pro-competitive practices. The enforcer should hence adopt a cautious approach also when imposing prohibitory remedies on SEP owners.[590]

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[587] MOTOROLA/GOOGLE C-4410 FTC, note 482 (Google entered in a consent order and agreed to not employ injunctions and exclusion orders against licensees that were willing to license on FRAND terms.); ROBERT BOSCH C-4377 FTC, note 273 (Bosch agreed to abandon its claims for injunctive relief against its potential licensees); CASE AT 39939 — SAMSUNG STANDARD) 2014 O.J. C 350, note 507 (Samsung agreed to a five years' commitment not to seek any injunction on the basis of any of tis SEP).

[588] Petrovcic, note 5 at 156.

[589] Katy Oglethorpe, Nokia Counsel: Major Companies "Wilfully Infringe" FRAND Global Competition Review (GCR) (2013), http://globalcompetitionreview.com/news/article/33655/nokia-counsel-major-companies-wilfully-infringe-frand/ (last visited Jun 8, 2016).

[590] Petrovcic, note 5 at 157.

7.6.2 Access Remedies

SEP owners' strategic licensing practices have on some occasions also triggered the adoption of access remedies. In Rambus EU, the Commission market tested the offered commitments, and, after receiving comments, accepted the commitments and made them binding.[591]

Designing an access remedy is an onerous task. This characteristic applies in particular in the context of SEP, where the evaluation may require an extensive analysis of variables such as the value of the patent, its contribution to the standard, the value of the standard. A more than 200 pages long decision in the Microsoft v. Motorola case shows that the determination of access terms is a case specific and fact- intensive exercise which requires a detailed analysis.[592]

In Rambus, US and Europe imposed the duty to license its SEP on fair and reasonable terms. There was, however, a considerable difference in what the two competition agencies considered a fair royalty. Whereas in the US the royalty imposed was less than 0.5% the commitment adopted in the EU provides for a royalty of 1.5%.[593] Although the competition authorities of both sides of the Atlantic addressed the same conduct, concerning the exact same circumstances, they reached divergent conclusions of what constitutes a fair and reasonable royalty.[594]

An erroneous decision on what constitutes a FRAND royalty do not come without costs. On the one hand, a remedy that is too lenient, might not address sufficiently the anticompetitive conduct. On the contrary, a remedy too strict could affect in a negative way the incentives to invest in innovation, and in the case of SEP, the incentives to contribute the technology to the standard.[595]

The difficulty in designing remedies might affect the agency's decision to intervene against the SEP owner's conduct in first place. As explained, under US antitrust law, the difficulty in designing adequate is often an argument against the antitrust intervention.[596] The fact that the imposition of an antitrust remedy particularly onerous might suggest that the intervention is not desirable in the first place. In the EU, on the contrary, the Commission has often emphasized that the difficulty in

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[591] See CASE COMP 38636 RAMBUS O.J. C 30 2009, note 331 (Rambus offered to put a cap on its royalties, agreeing to chanrge a royalty of not more than 1.5% for its SEP.) ; See also Joined Cases T-148/10 & T-149/10 SK Hynix Inc. v Comm'n, (2013) (Hynix brought an action against the commitment but it was rejected by the ECJ).

[592] Microsoft Corp. v. Motorola, Inc., (W.D. Wash) III, 871 F Supp 2d 1089 (2012).

[593] Compare RAMBUS II 522 F.3D, note 75; and CASE COMP 38636 RAMBUS O.J. C 30 2009, note 331.

[594] Petrovcic, note 5 at 158.

[595] See Bruce Lyons, The Paradox of the Exclusion of Exploitative Abuse, in The Pros and Cons of High Prices 65 (2007), https://ueaeprints.uea.ac.uk/28804/ (last visited Jun 8, 2016).

[596] TRINKO 540 US, note 388 at 415.

defining the adequate remedy does not affect the finding of an antitrust violation. The European Commission can, in fact, apply various mechanisms that might help in designing the adequate remedy, such as delegate the determination of the remedy to a third party, court or specialized body, which would then determine the fair licensing fee.[597] Despite the legal basis for intervention, the European Commission seems to have taken a step back from prosecuting cases where the SEP owner allegedly imposed excessive royalties, signaling that national courts are well equipped to define FRAND royalties.[598]

7.7 Antitrust Settlements

The analysis of the remedies imposed on SEP owners unveils another important aspect of the antitrust intervention. In most cases, antitrust remedies were adopted through settlements (including EU commitments decisions, US consent orders, and private settlements).[599] Although a settlement of a private dispute is the legitimate decision of the parties to the dispute, one could question whether ending a public antitrust investigation through a commitment decision or a consent order is always a desirable solution as a matter of policy.[600]

7.7.1 Benefits of Settlements

Putting a stop to the antitrust legal action through a settlement indeed has several beneficial aspects. Given that there is no need to prove that the challenged conduct constitutes an anti-competitive behavior, the procedure is faster and requires less administrative resources.[601] A settlement allows timely, adoption of remedies, an aspect that might be particularly valuable in innovative markets, where technological changes are rapid, and there is a need for quick actions. Both the undertaking under investigation and the competition authority have normally strong incentives to reach a settlement and conclude the case.[602] The settlement allows the SEP owner to avoid a lengthy and

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[597] See European Commission, note 125.

[598] Petrovcic, note 5 at 159.

[599] Nikkei Asian Review, note 551; Japan Fair Trade Commission (JFTC), note 551 (The procedure under the system would proceed as follows: [i] Investigation begins, [ii] written notice containing a description of suspicions, etc, is served by the JFTC, [iii] the suspected companies voluntarily draft and apply a plan to cease and desist the conduct at issue, [iv] the JFTC reviews whether it is sufficient to assuage competition concerns and whether the suspected companies will put such plan into action and [v] the JFTC adopts or rejects the plan. In the case of the JFTC adopting the plan, whether the conduct at issue violates the AML will not be determined [no fines and surcharges]. Unlike with a consent decree or consent order in the US or a commitment decision system in the EU, there will not be a procedure for collecting public comments.); WRIGHT ET AL., note 551.

[600] Petrovcic, note 5 at 159.

[601] Se e.g. Siragusa and Guerri, note 552; Ginsburg and Wright, note 548; Carl Shapiro, *Antitrust Limits to Patent Settlements*, 34 RAND J. ECON. 391 (2003), http://papers.ssrn.com/abstract=406698 (last visited May 11, 2016); See Case C-441/07 Comm'n v Alrosa Company Ltd., 2010 ECR I 5949 (2010), http://curia.europa.eu/juris/liste.jsf?language=en&num=C-441/07.

[602] Heike Schweitzer, Commitment Decisions under Article 9 of Regulation 1/2003: The Developing EC Practice and Case Law, 13 in

expensive legal procedure and the related reputational damages. It also avoids the formal finding of infringement, which could be used in private damage claims.[603] The use of settlements is favorable also for the antitrust authority, given that it does not need to meet the standard of proof required to show the existence of anti-competitive conduct. There is no reason to engage in full fact-finding procedures. The savings of time and money allows the competition authorities to focus on other anti-competitive practices. Another advantage of a settlement is that it allows interested parties to participate in the enforcement action, by providing comments on the suggested remedies.[604] Especially when imposing complex remedies, public comments may be helpful in evaluating the adequacy of the chosen remedy.

7.7.2 Disadvantages of Settlements

Concluding the antitrust investigation through a settlement has nonetheless also negative aspects. Most significantly, settlements do not contribute to the development of a clear legal doctrine.[605] In the case of a fully prosecuted infringement, there is a clear determination of whether the challenged conduct constitutes and anti-competitive behavior prohibited by competition law. Full prosecution clarifies the scope competition law provisions have in addressing a specific conduct and contributes to the general deterrence of anticompetitive practices.[606] Settlements, on the contrary, do not determine whether the challenged conduct constitutes a violation of the antitrust provisions. They maintain a substantive level of legal uncertainty, particularly in cases of novel conducts, where the borders of legitimacy have not been defined.[607] Exactly for these reasons, several commentators have emphasized that settlements not be appropriate in cases where the application of competition law is unclear.[608]

European Competition Law Annual 2008: Antitrust Settlements under EC Competition Law 547 (Claus-Dieter Ehlermann & Mel Marquis eds., 1 ed. 2010).

[603] Shepard Goldfein & Thomas Pak, *Negotiated Antitrust Settlements: Some Perpectives from US Defendants*, *in* EUROPEAN COMPETITION LAW ANNUAL 2008: ANTITRUST SETTLEMENTS UNDER EC COMPETITION LAW 205 (Claus-Dieter Ehlermann & Mel Marquis eds., 1 ed. 2010); See Daniel Rubinfeld, *Antitrust Settlements*, *in* THE OXFORD HANDBOOK OF INTERNATIONAL ANTITRUST ECONOMICS, VOLUME 1 632 (Roger D. Blair & D. Daniel Sokol eds., 1 ed. 2014).

[604] Petrovcic, note 5 at 160.

[605] Schweitzer, note 602.

[606] Wouter Wils, *The Use of Settlements in Public Antitrust Enforcement: Objectives and Principles*, 31 WORLD COMPET. 335 (2008), https://www.kluwerlawonline.com/abstract.php?area=Journals&id=WOCO2008029 (last visited Jun 9, 2016).

[607] Florian Wagner-Von Papp, *Best and Even Better Practices in Commitment Procedures After Alrosa: The Dangers of Abandoning the Struggle for Competition Law*, 49 COMMON MARK. LAW REV. 929 (2012), https://www.kluwerlawonline.com/abstract.php?area=Journals&id=COLA2012035 (last visited Jun 9, 2016).

[608] Ian Forrester, *Creating New Rules? Or Closing Easy Cases? Policy Consequences for Public Enforcement of Settlements under Article 9 of Regulation 1/2003*, 13 *in* EUROPEAN COMPETITION LAW ANNUAL 2008: ANTITRUST SETTLEMENTS UNDER EC COMPETITION LAW 637 (Claus-Dieter Ehlermann & Mel Marquis eds., 1 ed. 2010).

When antitrust remedies are adopted through settlements, there is also a higher risk that the adopted remedy will deter a pro-competitive practice. Settlements often lack a thorough analysis of the effects the challenged conduct imposes on the market.[609] There is consequently the risk that the agreed remedy will stop a behavior that is not harmful to consumers. The threat of a lengthy public investigation, with the possible imposition of a substantial fine or damages, may stimulate the incumbent to offer to stop a practice that has no anticompetitive effects.[610] Imposing a remedy against conduct that is not anti-competitive restricts the means through which an incumbent competes in the market.[611] In such circumstances, the antitrust intervention is likely to harm, rather than protect competition in the market.[612]

Several of the mentioned concerns fit aptly in the context of SEP. The ability of the antitrust provision to address the SEP owners' conduct remains in many aspects unsettled. Part of the reason why the law remains unclear can be attributed to the fact that past investigations were often concluded thru settlements, without providing legal doctrines. At the same time, it is also possible that some of the agreed remedies deterred a SEP owner's pro-competitive conduct.[613] For instance, the use of injunctive remedies in the framework of SSO's.

Also, remedies agreed through settlements might also not have the desired deterrent effects. They do not provide for a monetary sanction, nor they enable private parties the ability to recover damages. There is a risk that antitrust intervention does not sufficiently deter future anticompetitive practices.[614]

7.8 Chapter Summary

SEP owner's opportunistic practices triggered the application of both prohibitory and access remedies. Designing an appropriate remedy could be difficult since an access remedy would require a follow up on the given licensing conditions. It comes as no surprise that competition authorities, particularly in the US, have mainly focused their intervention on conduct that does not require the imposition of access remedy.

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[609] Pablo Ibanez Colomo, European Communications Law and Technological Convergence. Deregulation, Re-regulation and Regulatory Convergence in Television and Telecommunications (2011).

[610] Schweitzer, note 602.

[611] Wagner-Von Papp, note 607.

[612] See Deborah Platt Majoras, ANTITRUST REMEDIES IN THE UNITED STATES: ADHERING TO SOUND PRINCIPLES IN A MULTI-FACETED SCHEME (2002), https://www.justice.gov/atr/speech/antitrust-remedies-united-states-adhering-sound-principles-multi-faceted-scheme (last visited May 13, 2016).

[613] Petrovcic, note 5 at 161.

[614] Id. at 162.

Prohibitory remedies are easier to design and administer. Nevertheless, they might have negative effects on the market if misapplied. Concerns are less severe in cases challenging deceptive practices. Deceptive practices have no pro-competitive effects, and there are consequently fewer fears that the imposed antitrust remedy will deter a beneficial conduct for consumers.

In the case of strategic licensing, prohibitory remedies could have a significant impact on the market, if applied against a licensing practice that had no anti-competitive, therefore deterring a pro-competitive conduct.

Regarding settlements, they are not always an ideal solution. Although solving an antitrust controversy through settlement allows the authority to address a case promptly, this mechanism could have some negatives consequences. On the one hand, they create a level of uncertainty about the exact scope of antitrust provisions, and on the other, the absence of a detailed analysis of the effects of the conduct in the market might stop pro-competitive actions.

8 Chapter 8: Preventing Disputes in the SEP Context

The analysis presented in the previous chapters demonstrates that competition law is not able to provide a complete solution to the problems arising in the context of SEP. Some conducts, although opportunistic, fall outside the domain of competition law. Others serve as a basis for an intervention, but such intervention remains controversial. The limitations competition law faces in addressing opportunistic practices in the context of SEP suggest that mechanisms outside the sphere of competition law need to complement the antitrust intervention.[615]

The aim is not to a complete overview of the adopted mechanisms but rather to assess what role competition law plays (and should play) in stimulating the implementation of those mechanisms. Should competition law be used as a tool to boost the adoption of mechanism that could avoid opportunistic practices in the context of SEP?[616]

8.1 Standard Setting Organizations Rules Revision

The risk of unfair practices affecting standards is closely related to the effectiveness of SSO policies. The implementation of certain rules over different ones may either encourage or discourage patentees from adopting misleading conducts. Therefore, to avoid hold up, it seems essential to implement a more robust policy framework as an ex-ante tool.[617]

Good governance rules for SSO must be developed under the supervision of competition law. Competition law must be detached from the by-laws of the SSO's, and create its set of norms on how firms may compete and interact in SSO's.[618] Those rules determine what constitute a misuse of the standard-setting procedure under competition law. Furthermore, such conduct, which threatens the integrity of the standard setting process, should be identified as misuse and may be declared as not competition on the merits. Those rules should be firmly based on what may cause anticompetitive effects because the relevant markets have often not yet materialized.[619]

Demanding a showing of actual anti-competitive effect is, therefore, setting the threshold too high. Those rules should apply both to the members of the SSO's and to the SSO's themselves when

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[615] Id. at 163.

[616] Id. at 164.

[617] Torti, note 10 at 196.

[618] LUNDQVIST, note 180 at 366.

[619] Id. at 414.

deciding standards for markets where competition between standards can be upheld.[620] The aim of the rules should be transparency of the standard-setting procedure, and access to membership and standards must be upheld, especially when dealing with standards where competition is based on imitation.[621]

8.1.1 EU 2001 Guidelines

In the EU, the Commission used its soft law mechanisms to stimulate SSO to adopt specific procedural safeguards that could prevent opportunistic practices in the context of SEP. In 2001, the Commission issued the Guidelines on the Applicability of Article 81 of the EC Treaty to Horizontal Cooperation Agreements, a document that discussed, among other things, the applicability of competition law provisions (mainly article 101) to standardization agreements.[622] The document did not have a binding nature. It nonetheless aimed at stimulating SSO to adopt procedural provisions that would avoid anti-competitive practices related to the adoption of the standard. The rationale for such recommendations was that standardization agreement represents a covenant between market players concerning the future conduct in the market. It necessarily limits competition in the market and would, in principle, fall under the prohibition, anti-competitive of Article 101 (1). As stated before, economic theories have recognized, nonetheless, that standards have substantial pro-competitive effects that are consistent with the goals of competition law. As a result, competition authorities have allowed standard setting activities, on the condition that are conducted through a procedure that permits the preservation of the pro-competitive effects of standardization, and avoids unnecessary limitations to competition.[623]

At the time of the adoption of the 2001 guidelines, the main concerns with the standardization activities were collusion among SSO participants, and their ability to use the standard as a tool to foreclosure third parties from the market.[624] The commission consequently tried to stimulate the adoption of rules that would reduce the risk of collusion and foreclose. The guidelines provided that standardization agreements that have a legitimate object do not fall under Article 101 if they meet specific procedural requirements. First, the standardization agreement must be determined through an open and transparent standardization procedure, and the SSO must not impose an obligation on

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[620] Id. at 366.

[621] Id. at 414.

[622] European Commission, note 1 at 163.

[623] Id. at 163.

[624] Id. at 174.

participants to comply with the standards.[625] There was a legal presumption that the standardization agreement was not in violation of Article 101 TFEU. On the contrary, the legality of agreements adopted by an SSO which internal rules did not meet the requirement was evaluated on a case by case basis. Therefore, the threat of a competition law scrutiny was used as a tool to stimulate SSO to implement the procedural requirements suggested in the 2001 Guidelines.[626]

8.1.2 EU 2011 Guidelines

In response to patent ambush and strategic licensing, the Commission issued new guidelines in 2011. The 2011 guidelines confirmed the principles outlined in the previous guidelines but addressed concerns related mores specifically to SEP. They clarified that the implementation of patented technologies in an industry standard is pro-competitive.[627] The commission nonetheless emphasized that the SSO need to ensure effective access to the standard. By adopting a clear and balance IPR policy adapted to the particular industry at hand, including FRAND and good faith disclosure requirements, which increases the likelihood that the implementers on the standards will be granted effective access to the standard elaborated by the SSO.[628]

The 2011 Guidelines clarified that the SSO could promote the access to its standards through two main pillars. First, the SSO policy should require participants to make a good faith disclosure of the IPR that might be relevant to the discussed standard.[629] At the same time, the 2011 Guideline suggested that SSO should adopt an IPR policy that demands a participant wishing to have its IPR included in the standard to commit to making its technology available under FRAND terms irrevocably.[630] Further, the guidelines suggested that the FRAND commitment should be binding even for companies to which SEP are transferred at the later stage, that is after the patented technology has been implemented in the standard.[631]

Although the industry praised the adoption of the 2011 guidelines, one could question whether the commission did not go too far in defining the procedural rules that a SSO needs to comply with to

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[625] Id. at 163.

[626] Petrovcic, note 5 at 165.

[627] EUROPEAN COMMISSION, note 125 at 269; LUNDQVIST, note 180 at 198.

[628] EUROPEAN COMMISSION, note 125 at 284; LUNDQVIST, note 180 at 200; TORTI, note 10 at 181.

[629] European Commission, note 125 at 268.

[630] Id. at 285.

[631] Id. at 280.

avoid liability under Article 101.[632] The conditions of the safe harbor seem to go beyond the guidelines aim to provide directions in the future Commission interpretation of the competition law provisions.[633] It appears that the commission tried to use the guidelines as a tool to stimulate SSO to adopt specific internal rules, tasks that one would expect to be done by a legislator, but not by a competition authority. The commission emphasized that SSO remains free to adopt internal rules different from the one suggested in the 2011 guidelines. The not compliment will be subject to a case by case basis approach.[634]

Furthermore, it is not clear whether the Commission implicitly recognized the necessity to implement a duty to search. On a different ground, the Commission did not precisely identify an optimal time of disclosure of essential rights. It did not even set the scope of the mentioned good faith duty.[635]

8.1.3 United States' SSO Voluntary Rules

US competition authorities adopted a less interventionist approach towards SSO rules than their EU counterpart. The US Supreme Court held that a private standard-setting activity is permitted under the antitrust law only on the understanding that it will be conducted in a non-partisan way offering pro-competitive benefits.[636] It also emphasizes that standardization activities procedural requirements do not necessarily infringe the antitrust law.[637] The legality of the standardization agreement is thus evaluated under the rule of reason by analyzing the effects the agreement imposes in the market. The absent or presence of specific procedural requirements can in no way predetermine the outcome of such analysis. It should come at no surprises that the US antitrust agencies have been more hesitant in suggesting to SSO the implementation of specific procedural rules.[638]

Despite the absence of an intervention on the side of competition authorities, also SSO active in the United States have adopted proceedings safeguards similar to the one suggested in the EU guidelines.

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[632] See e.g. Fabien Terpan, *Soft Law in the European Union—The Changing Nature of EU Law*, 21 EUR. LAW J. 68 (2015), http://onlinelibrary.wiley.com/doi/10.1111/eulj.12090/abstract (last visited Jun 10, 2016); Hakon A Cosma & Richard Whish, *Soft Law in the Field of EU Competition Policy*, 14 EUR. BUS. LAW REV. 25 (2003), https://www.kluwerlawonline.com/abstract.php?area=Journals&id=5086978 (last visited Jun 10, 2016).

[633] EUROPEAN COMMISSION, note 125 at 280; Joined Cases T-213/95 & T-18/96 SCK & FNK v. Comm'n, 1997 ECR II (1997); LUNDQVIST, note 180 at 213.

[634] Petrovcic, note 5 at 166.

[635] Torti, note 10 at 182.

[636] Allied Tube & Conduit Corp. v. Indian Head, 486 U.S. 492, 506 (1988).

[637] Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co., 472 U.S. 284, 293 (1985).

[638] Petrovcic, note 5 at 167.

Several reasons explain the SSO voluntary implementation of such procedural rules.

8.1.4 Joint Enforcement Guidelines Proposal

Some commentators have suggested that the US antitrust agencies should adopt a stricter approach towards SSO. For example, the American Antitrust Institute (AAI) submitted a petition to the FTC and the DOJ requesting for joint enforcement guidelines on the Patent Policies regarding Standard Essential Organizations.[639] The document suggested as follows: (1) issue specific guidelines for what should be included in SSO patent policies; and (2) hold SSO liable for not adopting procedural safeguards to prevent patent hold-up behavior. For this specific task, the AAI suggested the adoption of the following rules:

- Mandatory disclosure of relevant patent (including anticipated and pending patent application), supported by good faith reasonable inquiry (in contracts with the disclosure in good faith currently required by most SSO).[640]
- Mandatory royalty-free licensing for patents that are not disclosed during the standardization process (if the failure to disclose the patent violates the disclosure obligation).[641]
- Commitment to license their SEP on FRAND terms, with a FRAND royalty reflecting a patent's incremental value to the standard before adoption and commercialization (the so-called ex-ante value of the patent).[642]
- Prohibit the use of injunctions and exclusion orders against any willing licensee infringing a SEP.
- An efficient, cost-effective process to resolve disputes over RAND and royalty terms (e.g. the baseball style arbitration). [643]

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[639] American Antitrust Institute, REQUEST FOR JOINT ENFORCEMENT GUIDELINES ON THE PATENT POLICIES OF STANDARD SETTING ORGANIZATIONS AMERICAN ANTITRUST INSTITUTE (AAI) WEBSITE (2013), http://www.antitrustinstitute.org/content/aai-calls-doj-and-ftc-create-joint-enforcement-guidelines-patent-policies-standard-setting-o (last visited May 13, 2016).

[640] Id. at 13.

[641] Id. at 14.

[642] Id. at 14.

[643] *Id.* at 15.; See Contreras and Newman, note 77 ; Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 BERKELEY TECHNOL. LAW J. 1135 (2013), http://papers.ssrn.com/abstract=2243026 (last visited Feb 14, 2015); J. Gregory Sidak, *Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents*, 18 STANDFORD TECHNOL. LAW REV. 1 (2014), https://journals.law.stanford.edu/stanford-technology-law-review/online/mandating-final-offer-arbitration-frand-royalties-standard-essential-patents (last visited May 11, 2016); Kuhn, Scott-Morton, and Shelanski, note 234 ("A F/RAND commitment should include a

- The stipulation that licensing commitments run with the SEP.[644]
- Cash-only license option for individual SEP (meaning SEP owners cannot condition a license on a cross-license to the licensee's non-SEP.[645]
- Mandatory disclosure of whether a SEP owner commits not to transfer the SEP to a patent assertion entity (PAE) in the future—a commitment not to transfer to a PAE, like licensing commitments, would run with the SEP.[646]

The AAI proposal suggested the US agencies should adopt a similar approach like the one taken in the EU, where competition authorities use the threat of an antitrust injury liability as a tool to stimulate SSO to adopt specific rules. However, the rules suggested by the AAI were much more detailed.[647]

The agencies have not replied to the proposal as stated in the AAI's presidential transition report for the new US administration to begin in 2017.[648]

8.1.5 SSO IP Rules in Japan

In Japan, the regulatory efforts have been focused mainly on collusion possibilities among patent owners.[649] Nevertheless, pundits acknowledged the necessity of SSO IP licensing rules. For example, the Japanese Intellectual Property Association (JIPA) recognized that standard setting organizations should oblige the participants to declare its intention to offer FRAND terms and to

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process that is faster and lower cost for determining a F/RAND rate, or adjudicating disputes over F/RAND, than litigation...The types of solutions we have in mind, without meaning to suggest that any one is the right solution in any particular instance, include arbitration and alternative dispute resolution within the SSO.").

[644] American Antitrust Institute, REQUEST FOR JOINT ENFORCEMENT GUIDELINES ON THE PATENT POLICIES OF STANDARD SETTING ORGANIZATIONS (FOLLOW UP LETTER) AMERICAN ANTITRUST INSTITUTE (AAI) WEBSITE (2014), http://www.antitrustinstitute.org/content/aai-calls-doj-and-ftc-create-joint-enforcement-guidelines-patent-policies-standard-setting-o (last visited May 13, 2016).

[645] Id.

[646] Id.

[647] Petrovcic, note 5 at 168.

[648] See AMERICAN ANTITRUST INSTITUTE, CHALLENGING ANTICOMPETITIVE ACQUISITIONS AND ENFORCEMENT OF PATENTS (PREVIEW) (2016), http://www.antitrustinstitute.org/2016-transition-report (last visited May 1, 2017) (The Agencies should act on AAI's Request for Joint Enforcement Guidelines on the Patent Policies of Standard Setting Organizations, adopting the principle that SSO should be liable for the anticompetitive effects of holdup conduct enabled by inadequate SSO patent policies.) .

[649] See JAPAN FAIR TRADE COMMISSION (JFTC), note 10; See also Monica Armillota, *Japanese Guidelines on Standardization and Patent Pool Arrangements: Practical and Legal Considerations under the Current Antimonopoly Act - A Global Perspective*, 18 IIP BULL. INST. INTELLECT. PROP. RIGHT 56 (2009), http://www.iip.or.jp/e/e_summary/pdf/detail2008/e20_08.pdf (last visited May 1, 2017).

make a self-declaration of SEP(s) to the SSO, and should set rules of such declarations.[650] Furthermore, the International Association for the Protection of Intellectual Property of Japan (AIPPI – JAPAN) stated that it is not helpful if each SSO becomes more explicit about the objective of their IPR policies on their way. This organization concluded that It would be desirable to create a basic part of such policies within an international framework, with which SSOs may be compliant when making their policies more explicit.[651]

8.1.6 SSO Liability for its Members Anticompetitive Practices

One important issue is whether the unilateral conduct of a SEP owner could truly trigger the liability of the SSO. The AAI arguments that the SEP owner opportunistic practice returns the standardization agreement to its anti-competitive status, and could thus trigger the SSO antitrust liability. However, can the SSO be held liable for the unilateral conduct of one of its members?[652]

The issue was partially discussed in American Society of Mechanical Engineers v. Hydrolevel, where the Supreme Court found the SSO liable for the anticompetitive conduct of its agent. The court stated that a rule that imposes liability on the standard-setting organization (which is the best situated to prevent antitrust violations through the abuse of its reputation) is most faithful to the congressional intent that the private right of action to deter antitrust violation. [653]

However, the decision is not necessarily applicable to all situations in the standardization context. In Hydrolevel, the Supreme Court relied upon general principles of principal-agent relationships when determining the SSO liability. The case did not concern only to membership in an SSO, but a situation in which the person is engaging in the anticompetitive practice acted under the SSO authority.[654]

8.1.7 Competition Law Role in the Revision of SSO's Rules

After the disputes that arise in the context of SEP, most SSO revised their internal rules in a way to mitigate the risk of opportunistic behavior. However, the question about the motivation for such revision arises. Two possibilities surface: The review of the rules was stimulated by the antitrust

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[650] See Japan Intellectual Property Association (JIPA), JIPA COMMENTS ON "QUESTIONNAIRE ABOUT PATENTS AND STANDARDS" 2.1.1 (2015), http://www.jipa.or.jp/jyohou_hasin/teigen_iken/14/150203_Patents%20and%20Standards.pdf (last visited May 18, 2016).

[651] See Eiji Katayama, COMMENTS ON "QUESTIONNAIRE ABOUT PATENTS AND STANDARDS" 2.1.1 (2015), http://www.aippi.or.jp/english/pdf/comment/34.pdf (last visited May 18, 2016).

[652] Petrovcic, note 5 at 169.

[653] Am. Soc'y of Mech. Eng'Rs v. Hydrolevel Corp., 456 U.S. 556, 572 (1982); TruePosition, Inc. v. LM Ericsson Tel. Co., 899 F Supp 2d 356 (2012).

[654] Petrovcic, note 5 at 170.

intervention or by the issuance of documents, such as the Commission 2011 guidelines. More importantly, would we observe a similar development even in the absence of the antitrust intervention? [655]

There is no clear-cut answer to that question. Indeed, one could argue that the antitrust actions initiated by the competition authorities against SEP owners, coupled with the commission's guidelines, did point out the deficiencies of the SSO rules and hence stimulated SSO's to revise them. A different explanation is, however, possible: SSO's have an interest in adopting clear procedural rules. Avoiding participants' deceptive practices allows the SSO to make an informed selection of the technologies to be implemented in the standard. Moreover, thus, allows selecting standards of a higher quality.

Further, FRAND Commitments ensure that the standard will be accessible to all parties interested in the implementation of the standard. Developing a successful standard is clearly in the interest of the SSO, given the more successful the standard is, the more profit will the SSO generate. Therefore, the SSO has a clear interest in revising the rules in a way to avoid opportunism. It is, therefore, possible that revision would have occurred in the absence of antitrust law. Surprisingly SSO's did not adopt any mechanisms to address the SEP owner ability to impose exploitative licensing practices. Rather the contrary, SSO's state that any dispute concerning the licensing terms should be solved between the parties of the licensing agreement, outside the standardization context.[656]

One could question what the reason for the SSO failure to adopt a mechanism that would address these types of opportunism is. One argument could be that SSO incentives are not aligned with those of the consumers. Therefore there is no interest in adopting such mechanisms. [657] Cases of patent hold up harm consumers if exploitative licensing conditions are passed on them. However, the SSO does not necessarily have an incentive to prevent consumers' harm.

A different explanation is nonetheless possible. One could argue that cases of patent holdup and royalty stacking are not that frequent in practice, as suggested by some commentators, and that there is consequently no need for the SSO to intervene. SSO's are business entities, driven by a clear

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[655] Id. at 173.

[656] *Id.* at 173.; See Roy Hoffinger, *The 2015 DOJ IEEE Business Review Letter: The Triumph of Industrial Policy Preferences Over Law and Evidence*, 3 ANTITRUST CHRON. COMPET. POLICY INT. (2015), https://www.competitionpolicyinternational.com/the-2015-doj-ieee-business-review-letter-the-triumph-of-industrial-policy-preferences-over-law-and-evidence/ (last visited May 18, 2016) (An exception to including dispositions prohibiting injunctions for SEP owners); MARC SANDY BLOCK ET AL., THE FUTURE OF STANDARDS: WHAT'S NEXT AFTER THE IEEE SHIFT? (2015), https://ipoevents.webex.com/mw0401lsp13/mywebex/default.do?siteurl=ipoevents (last visited Mar 14, 2015); Thomas Cotter, IMPACT OF IEEE SEP POLICY CHANGE COMPARATIVE PATENT REMEDIES (2015), http://comparativepatentremedies.blogspot.jp/2015/02/impact-of-ieee-sep-policy-change.html (last visited Feb 16, 2015).

[657] Petrovcic, note 5 at 173.

business goal: develop successful standards that are widely implemented by the market. It is thus reasonable to expect that the SSO would address practices that harm the success of the standard. The fact that SSO's did not take any action about cases of alleged patent holdup and royalty stacking suggests that, in practice, those cases (if they arise at all) did not have a significant effect on the standards' success.[658]

The SSO failure to take any steps towards cases of strategic licensing also reinforces the previous conclusion that the actions initiated by the competition authorities did not have a major role on the revisions of the SSO rules. If the intervention of competition authorities were truly the reason that stimulated of the SSO rule, one would, in fact, expect to see more provisions dealing with the issue of strategic licensing. One of the biggest concerns of the antitrust authorities in the context of SEP.[659]

8.2 Ex Ante Discussion of Licensing Terms

According to this model, the patent holder discloses in advance (ex-ante) the royalty rates that it intends to charge to potential licensees.[660]

In the early 2000s, proposals were made at several large SSOs including IEEE and ETSI, as well as the smaller VMEbus International Trade Association (VITA)[661], to require the disclosure of royalty information before approval of a standard.[662] Due to the internal opposition as well as the specter of liability for encouraging anti-competitive price collusion, IEEE and ETSI amended their patent policies to permit, but not require, the disclosure of royalty and other licensing information.[663] VITA, in contrast, proceeded with its policy amendments requiring mandatory ex-ante disclosure of maximum patent licensing rates. Both VITA and IEEE requested, and received, business review letters from the DOJ approving their proposed policy amendments.[664]

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[658] Id. at 173.

[659] Id. at 173.

[660] Torti, note 10 at 96; Contreras, note 159 at 26.

[661] U.S. Dep't of Justice, VMEBUS INTERNATIONAL TRADE ASSOCIATION (VITA) (BRL) (2006), https://www.justice.gov/atr/response-vmebus-international-trade-association-vitas-request-business-review-letter (last visited May 18, 2016).

[662] Contreras, note 159 at 26; See also Jorge L. Contreras, *Technical Standards, and Ex Ante Disclosure: Results and Analysis of an Empirical Study*, 53 JURIMETRICS 163 (2013), http://papers.ssrn.com/abstract=2249926 (last visited Feb 17, 2015).

[663] Contreras, note 159 at 26; See Sidak, note 23.

[664] U.S. Dep't of Justice, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. (IEEE) AND ITS STANDARDS ASSOCIATION (IEEE-SA) (BRL) (2007), https://www.justice.gov/atr/response-institute-electrical-and-electronics-engineers-incs-request-business-review-letter (last visited May 18, 2016); U.S. Dep't of Justice, note 661.

As exposed, the concerns with patent hold up have stimulated competition authorities to change their approach towards the discussion of licensing terms during the standardization process. Competition authorities were traditionally suspicious towards the discussion of licensing terms, because of the risk of collusion. SSO's have prohibited participants from discussing the licensing terms during the standardization process. The licensing terms have to be determined in bilateral negotiations between the SEP owner and the manufacturer, outside the standardization process.[665]

With time, however, competition authorities recognized that allowing the discussion of licensing terms for SEP ex-ante could mitigate the risk of hold-up. They acknowledged that if participants revealed the exact licensing terms for their technologies during the standardization process, the SSO would be able to base the selection of technology both on quality and price.[666] An ex-ante determination of licensing terms would also avoid the risk of ex-post opportunism, preventing the SEP owner to hold up the licensee and demanding unfair royalties after the licensee are locked in the use of the SEP.[667] Completion authorities have thus announced their willingness to adopt a more flexible approach towards the discussion of licensing terms during the standardization process.

8.2.1 Ex Ante Licensing Terms Declaration in Europe and Japan

European competition authorities were particularly supportive towards SEP rules that would allow participants to make an ex-ante unilateral declaration of the licensing terms. The Commission clarified this position in the 2011 guidelines, where it maintained that a technology owner is authorized to reveal the maximum level royalty that it is planning to charge for the use of its SEP.[668] In Japan, the view about ex-ante licensing is favorable as it increases cost predictability for implementers of standardized technology.[669]

8.2.2 Ex Ante Licensing Declaration in US

In the US, the DOJ and the FTC expressed a similar position in the 2007 report about Antitrust

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[665] PETROVCIC, note 5 at 174; See also Contreras, note 159 at 26; Skitol, note 356; Lemley and Shapiro, note 29; Jorge L. Contreras, *Fixing FRAND: A Pseudo-Pool Approach to Standards-Based Patent Licensing*, 79 ANTITRUST LAW J. 47 (2013), http://papers.ssrn.com/abstract=2232515 (last visited Feb 17, 2015).

[666] European Commission, note 125 at 299.

[667] U.S. Dep't of Justice and Fed. Trade Comm'n, note 10 at 49; Torti, note 10 at 97.

[668] European Commission, note 125 at 299.

[669] See Japan Intellectual Property Association (JIPA), note 650; Japan Electronics & Information Technology Industries Association (JEITA), COMMENTS ON THE DRAFT GUIDELINES ON HORIZONTAL COOPERATION AGREEMENT (2010), http://ec.europa.eu/competition/consultations/2010_horizontals/jeita_en.pdf (last visited May 18, 2016); Japan Business Council in Europe (JBCE), COMMENTS ON THE EUROPEAN COMMISSION PROPOSAL FOR HORIZONTAL GUIDELINES (2010), http://ec.europa.eu/competition/consultations/2010_horizontals/japanbusinesscouncilineurope_en.pdf (last visited May 18, 2016).

Enforcement and Intellectual Property Rights, where they suggested that a voluntary and unilateral disclosure of this licensing terms, including royalty levels, will not trigger the application of section 1 or section 2 of the Sherman Act.[670] The two agencies clarified that the ex-ante negotiations of licensing terms would be analyzed under the rule of reason, evaluating whether the restraint is reasonably necessary to achieve procompetitive benefits that outweigh those anticompetitive effects.[671]

The DOJ confirmed this approach in two business review letters mention above. The VITA letter imposed on its members the duty to state the maximum (and most restrictive) royalty rate for its patents that could be implemented in the standard.[672] The IEEE policy, which unlike VITA, provided that members could, but were not forced to, declare the maximum royalty rate and most restrictive licensing terms.[673] In both occasions, the DOJ recognized that ex-ante consideration of licensing terms could be pro-competitive, and this concluded that the policies suggested by the SSO would not be considered anti-competitive.[674]

8.2.3 Collective Discussion of Licensing Terms

Competition authorities maintained a less permissive approach towards a collective discussion of licensing terms. In the EU, the Commission has made clear that it remains unfavorable to any form of collective negotiation of royalties.[675] On the other hand, the US antitrust agencies indicated that a collective negotiation would not be considered as a per se violation, but evaluated under the rules of reason. [676]

Empirical data unveils that the ex-ante disclosure of licensing terms (both unilateral and collective) had a relatively low success in practice. Although SSO, such as IEEE and ESTI, implemented policies that allowed participants to disclose their most restrictive licensing terms SSO members have shown a general resistance to make such disclosure.[677]

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[670] U.S. Dep't of Justice and Fed. Trade Comm'n, note 10 at 54.

[671] Petrovcic, note 5 at 174.

[672] U.S. Dep't of Justice, note 661.

[673] U.S. Dep't of Justice, note 664.

[674] Petrovcic, note 5 at 175.

[675] European Commission, note 1 at 299.

[676] U.S. Dep't of Justice, note 661; Platt Majoras, note 122.

[677] See e.g. Contreras, note 662; JORGE L. CONTRERAS, AN EMPIRICAL STUDY OF THE EFFECTS OF EX ANTE LICENSING DISCLOSURE POLICIES ON THE DEVELOPMENT OF VOLUNTARILY TECHNICAL STANDARDS 60 (2011), http://www.ftc.gov/sites/default/files/documents/public_events/tools-prevent-patent-hold-ip-rights-standard-setting/exantereport.pdf (last visited May 1, 2017).

Few additional SSOs have adopted ex ante disclosure policies, likely due to a combination of inertia, antitrust concerns and internal opposition from patent holders.[678] Given these market realities some authors proposed that SSOs be mandated by law to require patent holders to make ex ante maximum royalty commitments (what they call structured price commitments).[679]

Participants have often emphasized that it is difficult for companies to make an ex-ante determination of a licensee fee. They argued that licensing conditions are contingent on several variables, such as the patent portfolio of the licensee, the patent portfolio of the SEP owner, the business structure of both parties, among other factors.[680]

8.3 FRAND Determination

The Georgia-Pacific approach became the de facto standard for adjudicating patent royalty damages in the federal courts despite its apparent limitations.[681] In the ruling, the court enumerated several elements which could play a role when calculating a reasonable royalty rate for the purposes of determining damages.[682] Specifically, the court held that the reasonable royalty owed to a patent holder should be determined based on consideration of fifteen different factors.[683] The factor that has come to dominate the reasonable royalty analysis is Factor 15, the royalty that the parties would have agreed upon at the time the infringement began if they had reasonably and voluntarily tried to reach an agreement: the so-called "hypothetical negotiation" test.[684] Despite the fact that this

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[678] See Contreras, note 662.

[679] See Lerner and Tirole, note 243.

[680] Petrovcic, note 5 at 174–176; Torti, note 10 at 99.

[681] See also e.g. Layne-Farrar, Padilla, and Schmalensee, note 177 (The fifteen factors in Georgia Pacific that guide reasonable royalty determinations for patent infringement cases are the most obvious starting point for FRAND, and they appear to be readily applicable to reasonable royalties within SSO.); Michel Suzanne, *Bargaining For RAND Royalties in the Shadow of Patent Remedies Law*, 77 ANTITRUST LAW J. 889 (2011), http://connection.ebscohost.com/c/articles/70203857/bargaining-rand-royalties-shadow-patent-remedies-law (last visited May 18, 2016); Lemley and Shapiro, note 643.

[682] Georgia-Pacific Corp. v. United States Plywood Corp. (1st Ins.), 318 F Supp 1116 (1970).

[683] Jorge L. Contreras & Richard Gilbert, *A Unified Framework for RAND and Other Reasonable Royalties*, 30 BERKELEY TECHNOL. LAW J. 1451 (2015), http://papers.ssrn.com/abstract=2502066 (last visited Feb 17, 2015); FED. TRADE COMM'N, note 49 at Chap. 7, Sec. III (When a patentee and implementer of standardized technology bargain for a licensing rate, they do so within a framework defined by patent remedies law. That law sets the implementer's liability if negotiations break down and the parties enter patent litigation, and therefore heavily influences the negotiated amount); Suzanne, note 681 (The damages that a court would award a successful patentee in patent litigation will influence the parties' RAND negotiations by establishing the implementer's potential liability); Lemley and Shapiro, note 643 (...the point of the hypothetical negotiation rule in patent damages is to determine what hypothetical reasonable parties might have done, had they had all the facts, including knowledge of non-infringing alternatives...The FRAND royalty concept is no different in this respect.).

[684] Christopher B. Seaman, *Reconsidering the Georgia-Pacific Standard for Reasonable Royalty Patent Damages*, 2010 BRIGH. YOUNG UNIV. LAW REV. 1661 (2010), http://papers.ssrn.com/abstract=1575805 (last visited Aug 9, 2016); Daralyn J. Durie & Mark A. Lemley, *A Structured Approach to Calculating Reasonable Royalties*, 14 LEWIS CLARK LAW REV. 627, 628 (2011), http://papers.ssrn.com/abstract=1567019 (last visited Aug 9, 2016).

hypothetical negotiation factor is just one of the factors on the list, the hypothetical negotiation is a method for incorporating the other factors in order to arrive at a reasonable royalty rate.[685]

This has been criticized because it overloads the jury with factors to consider that may be irrelevant, overlapping, or even contradictory.[686] Several commentators have argued that the hypothetical negotiation test is circular, as the royalties negotiated by parties will, to a large degree, depend on the royalty rates determined by courts to be reasonable, which theoretically rely on the results of a hypothetical negotiation.[687]

8.3.1 FRAND Determination in the US

In standardization terms, the hypothetical ex ante negotiation would be the licensing term the SEP owner and the licensee would negotiate before the technology was implemented in the standard. Further, the agencies suggested that when the SEP faced competition from alternative technologies before the implementation of the standard, the potential licensees would not agree to pay for the SEP not more than the incremental value to the next best alternative.[688] Courts should recognize that, when it can be determined, the incremental value of the patented technology over the next-best alternative establishes the maximum amount that a willing licensee would pay in a hypothetical negotiation. Courts should not award reasonable royalty damages higher than this sum.[689] Pundits emphasized the necessity to cap the SEP owner compensation to the incremental value, and in this way, prevent the SEP owner ability to hold up manufacturers.[690]

Some commentators have however criticized such a rule, suggesting that limiting the SEP owner compensation would result in under compensating SEP owner.[691] Abbot stated that the "incremental value" approach, far from being economically optimal, is inherently flawed. It is at odds with

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[685] Contreras and Gilbert, note 683; See also COTTER, note 123 at 122; See Lucent Techs., Inc. v. Gateway, Inc., 580 F 3d 1301, 1324 (2009).

[686] Durie and Lemley, note 684 at 628.

[687] See e.g. Cotter, note 123 at 119.

[688] FED. TRADE COMM'N, note 49 at 23; See also Swanson and Baumol, note 49; Richard J. Gilbert, *Deal Or No Deal? Licensing Negotiations In Standard-Setting Organizations*, 77 ANTITRUST LAW J. 855, 860 (2011), http://works.bepress.com/richard_gilbert/30 (last visited Jun 10, 2015); Carlton and Shampine, note 234 at 536–546; Swanson and Baumol, note 49 at 10.

[689] FED. TRADE COMM'N, note 49 at 189; See also e.g. Thomas Cotter, *Four Principles for Calculating Reasonable Royalties in Patent Infringement Litigation*, 27 ST. CLARA COMPUT. HIGH TECHNOL. LAW J. 725, 743 (2011), http://papers.ssrn.com/abstract=1736174 (last visited Feb 16, 2015).

[690] See e.g. Lemley and Shapiro, note 29 at 1996; Edith Ramirez, *Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective*, , 11 (2014), https://www.ftc.gov/system/files/documents/public_statements/582451/140915georgetownlaw.pdf (last visited May 18, 2016); Shapiro, note 30; Carlton and Shampine, note 234.

[691] See e.g. Sidak, note 42 at 931.

elementary economic logic, which indicates that "ratcheting down" returns to SEPs in line with an "ex ante competition among technologies" model will lower incentives to invest in patented technologies offered up for consideration by SSOs in a standard- setting exercise.[692] Similarly, Sidak emphasized that the incremental value rule erroneously assumes that the alternatives to the SEP were available at no cost. Furthermore, stresses that the incremental value rule would result in the determination of suboptimal royalties, which would decrease the SEP owner's incentive to innovate and continue to contribute its technology to SSO.[693]

Recently, several U.S. courts have endorsed the concept that a FRAND royalty should correspond to the value of the patented technology when the standard is developed and should not capture post-adoption costs required to switch to a different technology.[694]

8.3.1.1 Microsoft Corp. v. Motorola, Inc. (9th Cir.)

According to the ruling the parties to a hypothetical negotiation would set RAND royalty rates by "looking at the importance of the SEPs to the standard and the importance of the standard and the SEPs to the products at issue." However, the court also noted that "From an economic perspective, a RAND commitment should be interpreted to limit a patent holder to a reasonable royalty on the economic value of its patented technology itself, apart from the value associated with incorporation of the patented technology into the standard." The court determined RAND royalties for Motorola's patents by adopting a modified version of the Georgia-Pacific factors to recreate a hypothetical

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[692] See Alden Abbott, FRAND Rules to Incentivize Innovation in Collective Standard Setting: What Golf Tournaments Can Teach Us Truth on the Market (2015), http://truthonthemarket.com/2015/11/03/frand-rules-to-incentivize-innovation-in-collective-standard-setting-what-golf-tournaments-can-teach-us/ (last visited Nov 6, 2015) (The notion that FRAND principles should be applied in a manner that guarantees minimal returns to patent holders is inherently at odds with the justification for establishing a patent system in the first place. That is because the patent system is designed to generously reward large-scale dynamic gains that stem from innovation, while the niggardly "incremental value" yardstick is a narrow static welfare measure that ignores incentive effects).

[693] Sidak, note 42 at 974; See also Anne Layne-Farrar & Gerard Llobet, *Moving beyond simple examples: Assessing the incremental value rule within standards*, 36 INT. J. IND. ORGAN. 57 (2014), http://www.sciencedirect.com/science/article/pii/S0167718713000945 (last visited Jun 21, 2016); OECD COMPETITION COMMITTEE (BR), note 7 at 56 (There may be practical issues in calculating the incremental value of an SEP relative to alternatives. For example, should one only consider alternatives that were actually assessed by the SSO [i.e., were "on the table" in some sense] or can one consider the universe of technologies available at the time? How does one reliably measure the incremental value of the standard incorporating the SEP to an alternative formulation incorporating different technologies? Is the validity and essentiality of the SEP assumed for purposes of the ex-ante negotiation? The answers to these questions may vary depending on the particular context of the dispute and the information available.); EDWARD F. SHERRY & DAVID TEECE, ASSESSING RAND ROYALTIES: A RESPONSE TO CONTRERAS AND GILBERT, "A UNIFIED FRAMEWORK FOR RAND AND OTHER REASONABLE ROYALTIES" (2016), http://papers.ssrn.com/abstract=2764647 (last visited Aug 1, 2016).

[694] See Norman Siebrasse & Thomas F. Cotter, *Judicially Determined FRAND Royalties*, *in* CAMBRIDGE HANDBOOK OF TECHNICAL STANDARDIZATION LAW (Jorge L. Contreras ed., 2016); See e.g. Realtek Semiconductor Corp. v. LSI Corp., 946 F Supp 998 (2013); Wi-Lan Inc. v. Alcatel-Lucent USA Inc, LEXIS 188451 (2013); Motorola Solutions, Inc. v. In re Innovatio IP Ventures, LLC (In re Innovatio IP Ventures, LLC Patent Litig.), 921 F Supp 2d 903 (2013); APPLE/MOTOROLA 757 F. 3D, note 139; ERICSSON, INC. V. D-LINK SYS, note 197; MICROSOFT CORP. V. MOTOROLA, INC. (9TH CIR.), note 19; Commonwealth Sci. & Indus. Research Organisation v. Cisco Sys. (CSIRO), 809 F 3d 1295 (2015).

negotiation between the parties.[695]

Figure 5: Georgia Pacific Modified[696]

Box 2. Summary of *Microsoft/Motorola* modified *Georgia-Pacific* factors

G-P Factor 1: The royalties received by the patentee for the licensing of the patent-in-suit in other circumstances comparable to RAND-licensing circumstances.

G-P Factor 2: The rates paid by the licensee for the use of other patents comparable to the patent-in-suit.

G-P Factor 3: The nature and scope of the license.

G-P Factor 6: The effect of the patented invention in promoting sales of other products of the licensee and the licensor, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.

G-P Factor 8: The established profitability of the product made under the patent, its commercial success, and its current popularity, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.

G-P Factor 9: The utility and advantages of the patent property over alternatives that could have been written into the standard instead of the patented technology in the period before the standard was adopted.

G-P Factors 10-11: The contribution of the patent to the technical capabilities of the standard and also the contribution of those relevant technical capabilities to the licensee and the licensee's products, taking into account only the value of the patented technology and not the value associated with incorporating the patented technology into the standard.

G-P Factor 12: The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions that are also covered by RAND committed patents.

G-P Factor 13: The portion of the realisable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, significant features or improvements added by the infringer, or the value of the patent's incorporation into the standard.

G-P Factor 14: The opinion testimony of qualified experts.

G-P Factor 15: The amount that a licensor and a licensee would have agreed upon (at the time the infringement began) if both were considering the RAND commitment and its purposes, and had been reasonably and voluntarily trying to reach an agreement.

Source: Innovatio, pp. 9-10

[695] Contreras and Gilbert, note 683 at 23.

[696] OECD Competition Committee (BR), note 7 at 26.

8.3.1.1 Motorola Solutions, Inc. v. In re Innovatio IP Ventures, LLC (In re Innovatio IP Ventures, LLC Patent Litig.)

Innovatio was another case that involved SEP decided several months after Microsoft/Motorola. The court explicitly adopted a similar approach as Microsoft/Motorola, subject to a number of adjustments in light of the facts of the case.[697]

None of these two decisions seems to accept, however, the incremental value rule, at least not in the way suggested by the FTC and DOJ. Judge Robart explained that the incremental value rule is hard to implement in practice.[698] Judge Holderman similarly pointed out the drawbacks of the incremental value rule. He instead applied what can be defines a revised incremental value approach which did not limit the FRAND compensation to a marginal benefit over the next alternative technology but took into account the implementation costs on alternative technology.[699]

8.3.1.2 Ericsson, Inc. v. D-Link Sys

Finally, Ericsson is the Federal Circuit's first opinion on how royalties should be determined when RAND-encumbered SEPs are asserted in patent infringement actions. In the district court, the SEP owner prevailed on its infringement claim, and the jury determined the RAND royalty owed. On appeal, the Federal Circuit vacated the award and remanded the case for a new trial on damages, concluding that the jury instructions for determining a RAND royalty were improper.[700]

The Federal Circuit held that "any royalty award must be based on the incremental value of the invention, not the value of the standard as a whole or any increased value the patented feature gains from its inclusion in the standard."[701] According to the Federal Circuit, to ensure that the royalty

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[697] INNOVATIO IP 921 F. SUPP. 2D, note 694.

[698] MICROSOFT CORP. V. MOTOROLA, INC. (W.D. WASH), note 269 at 79.

[699] INNOVATIO IP 921 F. SUPP. 2D, note 694 at 72; See also Stephen R. Freeland, INNOVATIO FILES THREE NEW SEP CASES AGAINST WIFI CHIP MANUFACTURERS ESSENTIAL PATENT BLOG (2015), http://www.essentialpatentblog.com/2015/03/innovatio-files-three-new-sep-cases-against-wifi-chip-manufacturers/ (last visited Mar 23, 2015) (Innovatio alleges that the WiFi chips made and sold by each defendant comply with the IEEE 802.11 WiFi standard and also infringe Innovatio patent claims held to be essential to that standard by Judge Holderman in the In re Innovatio case. Innovatio alleges further that it offered each defendant a license at the 10 cent per-chip RAND royalty rate set by the judge, but, to date, none of them have accepted the license offer. As a result, defendants' WiFi chips are unlicensed, and Innovatio brought suit for infringement.).

[700] Aaron G. Fountain & Maya Prakash Choksi, Standard-Essential Patents and the RAND Requirement: Recent Decisions on Reasonable and Nondiscriminatory Royalties Insights (Intellectual Property and Technology News Series) (2015), https://www.dlapiper.com/en/japan/insights/publications/2015/08/ipt-news-q3-2015/standard-essential-patent/ (last visited Mar 24, 2016).

[701] ERICSSON, INC. V. D-LINK SYS, note 197 at 1235; See also e.g. Natalie A. Bennett, *In SEP Assertion Cases, Apportionment Trumps Entire Market Rule: Ericsson, Inc. v. D-Link Sys. Inc., et al.*, THE NATIONAL LAW REVIEW, 2015, http://www.natlawreview.com/article/sep-assertion-cases-apportionment-trumps-entire-market-rule-ericsson-inc-v-d-link-sy (last

award is based on the incremental value that the patented invention adds to the product, "the patented feature must be apportioned from all of the unpatented features reflected in the standard," and "the patentee's royalty must be premised on the value of the patented feature, not any value added by the standard's adoption of the patented technology."[702] As stated before, the Federal Trade Commission ("FTC") has also advocated that "courts should cap the royalty at the incremental value of the patented technology over alternatives available at the time the standard was chosen." While the Federal Circuit did not reject this approach, it also did not appear to address it, but rather used the term "incremental value" to refer to apportionment.[703]

As exposed, these rulings exhibit a number of differences but some common principles have emerged as well:

- Avoid sunk costs hold up.
- Avoid royalty stacking.
- Reflect the incremental ex-ante value of the technology in comparison with alternatives.
- The royalty should be proportionate variously to (a) the technology's importance to the standard, (b) to users of the standard and (c) the value of the standard to the user.
- The royalty should not reflect any value added by network effects.
- Preserve the incentive to invent.
- Preserve the incentive to participate.[704]

8.3.2 FRAND Determination Japan

In Samsung v. Apple, a Grand Panel of the Japanese Intellectual Property High Court (IPHC) determined a FRAND royalty for a patent which was essential to the UMTS mobile cellular standard, and thus subject to a FRAND declaration made under the guidelines of the ETSI.

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visited Jul 8, 2016).

[702] ERICSSON, INC. V. D-LINK SYS, note 197 at 1232.

[703] Id. at 1226. ("The essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product."); id. at 1228 ("The court should also ensure that the instructions fully explain the need to apportion the ultimate royalty award to the incremental value of the patented feature from the overall product.").

[704] Siebrasse and Cotter, note 694; See also Wong-Ervin and Layne-Farrar, note 14.

The court noted that in assessing a FRAND royalty, it is necessary to balance the need to encourage widespread dissemination of the technology enabled by the patented invention, while at the same time rewarding inventors for their contribution.[705] To determine damages, the court first estimated the value contributed by the standard to each of the two infringing products at issue; the court referred to this as the contribution ratio of compliance with the UTMS standard.[706] Then the court determined the value that the patented technology added to the standard, which it referred to as the contribution ratio of the patent. These two steps are direct applications of the proportionality principle.[707]

In determining the contribution ratio of compliance with the standard, the court noted that mobile cellular communication capacity is the core function of a smartphone, while a tablet retains a large part of its functionality with Wi-Fi alone. Indeed, Apple sold essentially the same model tablet with and without cellular capability, which allowed the court to assess the value of the standard to the tablet directly. Consequently, the value of the standard as a percentage of the sale price of the product was different for the two products, even though the functionality was the same.[708]

This result is at odds with the U.S. focus on the smallest saleable unit as the royalty base. However, the Japanese court's methodology is sound, as the facts in Samsung illustrate. The value of the standard in a product is equal to the difference in the value of the product with and without the standard. While a smartphone and a tablet with cellular capability might cost about the same, the smartphone would be almost worthless without it, while the tablet would still retain much of its value. That is true even if the same chip implements the standard in both products. This valuation implies that it is often sound and even necessary to use the price of the final product as the royalty base, rather than the price of the smallest unit embodying the invention.[709]

The IPHC then assessed the value of the patent at issue about other patents in the standard and determined that it was of average value or less. Consequently, the court assessed a FRAND royalty for the patent at issue as a simple numerical proportion of the overall royalty.[710] This aspect of the analysis was very similar to that which was adopted in Innovatio and Microsoft. The IPHC noted that

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[705] CASE 2013 (NE) 10043 (JAPAN), note 19 at 121; Siebrasse and Cotter, note 694 at 18.

[706] Case 2013 (Ne) 10043 (Japan), note 19 at 133.

[707] Siebrasse and Cotter, note 694 at 18.

[708] Case 2013 (Ne) 10043 (Japan), note 19 at 134.

[709] Siebrasse and Cotter, note 694 at 18.

[710] Case 2013 (Ne) 10043 (Japan), note 19 at 136.

over-declaration of standard-essentiality is common, but fortunately, a relatively uncontroversial review was available which assessed the likely actual number of SEPs families, namely 529, and this number was used as the denominator in calculating the share owned to the patents at issue.[711] Thus the final royalty owing for the asserted patent family result was the value of the standard to each product multiplied by the 5% royalty cap, divided by 529 patent families.[712]

The general principles adopted by the IPHC in Samsung v Apple are broadly consistent with those who have been articulated in U.S. courts. Nevertheless, the contribution approach as a means of addressing apportionment and proportionality problems seems like a distinct improvement over the attempt by some courts in the U.S. to solve these problems by using the smallest salable patent-practicing unit as the royalty base. It also avoids some of the problems we noted above with Judge Holderman's alternative top-down approach in Innovatio. Also, the principle that the royalty should not reflect any of the value of standardization is notably absent from the IPHC judgment, as is any discussion of comparable licenses. Indeed, the decision is a very instructive example of how a reasonable royalty can be calculated without relying on comparable licenses. On the downside, though, it is possible that the 5% royalty cap as applied to the contribution rate was too low.[713]

8.3.3 FRAND Determination in Europe

The European Commission attempted to provide a clearer definition of a FRAND commitment. EU suggested that in case of a dispute (perhaps referring to a dispute between the SEP owner and the potential licensee), the evaluation whether the licensing conditions are unfair or unreasonable should be based on whether the fee bears a reasonable relationship to the economic value of the IPR implicitly refereeing to the EU case law on excessive prices.[714] Further, the guidelines suggested a non-exhaustive list of methods that could be used in evaluating whether the imposed licensing conditions are FRAND:

- A comparison between the licensing fee demanded after the implementation of the standard, to the demanded before the industry has been locked in the use of the utilization of the standard;
- A comparison with the licensee fee declared in an ex-ante disclosure of licensing terms
- The fee charged for licensing the same patents into other comparable standards

[711] Id. at 132.

[712] Siebrasse and Cotter, note 694 at 19.

[713] Id. at 19.

[714] European Commission, note 125 at 289.

- An independent expert assessment.[715]

The commission suggestions are valuable, given that they provide a clearer understating of the benchmarks that could be used in a potential dispute among the SEP owner and the licensee. The commission's definition of FRAND terms can be nonetheless criticized on several grounds. First, the definition of FRAND commitment seems misplaced in the 2011 guidelines, a document addressing the application of Article 101 TFEU to collusive practices. The part of the paper dealing with the definition of FRAND is directed towards the SEP owners unilateral conduct (in particular to the unilateral imposition of excessive prices) that should be dealt with under Article 102 TFEU, rather than Article 101 TFEU.[716] If the commission wanted to clarify how it intended to address the SEP owners unilateral conduct, it would be more appropriate to do so on a document dealing with the application of Article 102 TFEU. Turning to the substantive merits of the 2011 guidelines the commission focus on excessive royalties was incomplete. Later, cases concerning the SEP owners conduct have shown the strategic use of SEP goes beyond the mere imposition of exploitative licensing fees and might include licensing strategies that have exclusionary effects, or harm rivals' ability to compete. It seems therefore inappropriate to limit the concept of unfair royalties to excessive licensing fees.[717]

In Microsoft, the Commission suggested in 2004, and the European Court agreed in 2007, that a company with a dominant position is not entitled to charge a royalty based on the strategic value ("hold-up" value) of an indispensable asset.[718]

This holding led to a follow-up decision of the Commission and further judgment of the Court in 2012 on the level of royalties. The ruling confirmed that the innovative value (or inherent value) of an interoperability patent should be analyzed on its own (i.e., concerning the market in which the products implementing the patented technology compete). Furthermore, the patent owner cannot reap the rewards related to the revenue opportunity of the licensee in a neighboring market (in that case workgroup server operating systems). The inherent value of a patent is the incremental revenue that the licensee can derive from the use of the patent in the relevant market over the next best

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[715] Id. at 289.

[716] Id. at 289.

[717] Petrovcic, note 5 at 182.

[718] OECD COMPETITION COMMITTEE (FR), note 137 at 9; See Commission Decision 2009/C 166/08 (Case COMP 37792 — Microsoft), 2009 OJ C 166 (2008); Commission Decision 2007/L 32/23 (Case COMP 37792 — Microsoft), 2007 OJ 32 (2004) (The indispensable asset in the particular case is confidential and patented interoperability information) for PC operating systems that rivals needed to enter the neighboring market of workgroup server operating systems] .

alternative, which has to be analyzed on an ex-ante basis before lock-in occurs.[719]

This value can in certain cases be checked empirically. In the particular case of Microsoft, for instance, Microsoft's interoperability protocols were available for free "ex-ante," i.e., before interoperability with Microsoft's PC operating systems became indispensable and lock-in occurred. The Commission found that ex-ante, making interoperability information available for free was rational, because increased interoperability (and greater availability of complementary products) increased the attractiveness of the PC operating system, and thus increased Microsoft's revenues from that product. The Commission also checked the price of comparable interoperability technologies.[720] So in practice, valuation can be, and is, performed by looking at comparators, which was a method used as early as the United Brands case, and is currently being used in various pending FRAND cases.[721] It would have been done by the German court in the Motorola/Apple case had it not been settled out of court.[722]

On the other hand, European courts are not inclined to engage in any simple arithmetic nor do they emulate any US rate-setting opinion as a blueprint. They rather look for pragmatic solutions and – with the help of experts – use their understanding of the relevant technologies and competitive dynamics to assess the FRAND compliance of the proposed rates. German courts, in particular, would rather derive the value of the SEP at issue based, e.g., on established licensing practices and existing agreements, than actively determine it. In any case, these courts do not perceive royalty determinations as for the derivative of simulated negotiations.[723]

In the recent case St Lawrence Communication v. Vodafone, the Düsseldorf District Court held that specifying the way the royalty is calculated, as required under Huawei v. ZTE, should not be interpreted too strictly.[724] As FRAND is usually not an exact amount but rather a range, the claimant is not required to disclose a mathematical derivation. It is, therefore, in principle sufficient to reveal the basic considerations that led to the amount of the claimed royalty. Saint Lawrence Communication was held to have fulfilled this obligation by referring to a standard licensing royalty

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[719] OECD Competition Committee (FR), note 137 at 9.

[720] Id. at 10.

[721] See Case 27/76 United Brands, note 13.

[722] OECD Competition Committee (FR), note 137 at 10.

[723] Baron and Pentheroudakis, note 124 at 99.

[724] See Patent Perspectives, Huawei vs. ZTE Taking Effect in Germany Patent Perspectives (2016), http://patentperspectives.blogspot.com/2016/06/huawei-vs-zte-taking-effect-in-germany.html (last visited Feb 8, 2017); Taylor Wessing, Düsseldorf Regional Court Sharpens its Notion of the FRAND-obligations of SEP-Proprietor and SEP-user Taylor Wessing (2016), http://united-kingdom.taylorwessing.com/en/insights/transceiver/dusseldorf-regional-court-sharpens-its-notion-of-the-frand-obligations-of-sep-proprietor-and-sep-user (last visited Feb 8, 2017).

and its acceptance in the market.[725]

If deemed necessary, European courts may choose to perform a basic plausibility test over a full-fledged valuation. In Samsung v. Apple, The Hague District Court rejected Samsung's proposed royalty rate of 2.4% of the chip price for each of its asserted patents. The court held that Samsung's offer was so far out of the FRAND ballpark that the company failed to honor its obligation to make an offer on FRAND terms.[726]

8.4 Chapter Summary

The limitations competition law faces in addressing opportunistic practices in the context of SEP suggest that mechanisms outside the sphere of competition law need to complement the antitrust intervention.

Regarding standard setting organizations by-laws, good governance rules must be developed under competition laws offering a clear framework for standard setting, identifying misuse and the enhancing pro-competitive practices. The EU 2011 guidelines stimulated SSO to have policies that encourage good faith disclosure and licensing under FRAND nevertheless the regulation does not have a binding nature.

In the US, antitrust agencies are more hesitant to suggest guidelines for SSO bylaws. However, the SSO's by themselves have adopted proceedings safeguards similar to the one proposed by the EU guideline. Recently AAI suggested that the DOJ and the FTC adopt stricter guidelines for SSO's nevertheless the new administration has not expressed a criterion about them.

In Japan, no guidelines have been adopted so far. However legal professional has expressed the convenience of such rules.

Regarding the ex-ante discussion of licensing rules, concerns with patent hold up have stimulated competition authorities to change their approach towards the discussion of licensing terms during the standardization process. Authorities recognized that allowing the discussion of licensing terms for SEP ex-ante could mitigate the risk of hold-up. They acknowledged that if participants revealed the exact licensing terms for their technologies during the standardization process, the SSO would be able

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[725] Baron and Pentheroudakis, note 124 at 99.

[726] See Gertjan Kuipers, Douwe Groenevelt & Oscar Lamme, *A Further Perspective on Apple v Samsung: How to Successfully Enforce Standard-Essential Patents in the Netherlands*, BER. IND. EIGEND. IND. ORGAN. (2012), http://www.debrauw.com/wp-content/uploads/NEWS%20-%20PUBLICATIONS/artikel1_Kuipers-Groeneveld-Lamme.pdf (last visited May 18, 2016); EPLAW Patent Blog, SAMSUNG V. APPLE / FRAND EPLAW PATENT BLOG (2012), http://www.eplawpatentblog.com/eplaw/2012/03/nl-samsung-v-apple-frand.html (last visited Feb 8, 2017).

to base the selection of technology both on quality and price. An ex-ante determination of licensing terms would also avoid the risk of ex-post opportunism, preventing the SEP owner to hold up the licensee and demand unfair royalties after the licensee are locked in the use of the SEP.

Regarding FRAND, In US several courts have endorsed in the concept that FRAND royalties should be based on the incremental value of the SEP. Nevertheless, applying the incremental value theory leads to some conflict on how to define the right price since the value of a patent increases immediately at the implementation of the standard. The appointed value should be able to avoid royalty stacking and sunk cost hold up while preserving the incentive for innovation and participation in standards. In Japan, the royalties were defined based on the proportionality principle. The EC attempted to provide a clearer definition of FRAND, and for evaluation of price fairness, they referred implicitly to the EU case law on excessive prices. They also provided a list of methods to evaluate FRAND. The Europeans courts deal with FRAND, not as an exact amount but rather a range that is calculated by comparison with other technologies and the price ex-ante before the standard had locked on, as well as calculated with the help of experts.

9 Chapter 9: Conclusions

Both competition law and intellectual property are necessary for the market to work efficiently and to encourage dynamic efficiency. Both disciplines create the market conditions necessary for firms to profit from their inventions and compete in good faith. Furthermore, it is important to balance the IP holder's investment incentives and competition law's regulation objectives.

Standardization represents a context in which the balance above is tested as possible conflict could arise. Standard setting organizations establish intellectual property policies stipulating two main obligations to avoid potential conflicts. Those obligations are: disclosure of any rights related to the standard and license its rights under fair, reasonable and non-discriminatory (FRAND) terms. However, both disclosures timings and the FRAND concept have not been categorically defined by the legal doctrine or the jurisprudence.

This research presents a comparative perspective of the application of competition regulations to the standardization process. A patent owner is not immune to the regulations of competition law. The exercise of a legitimate obtained patent right can, in specific circumstances, constitute an anti-competitive behavior. In other words, a SEP owner's licensing behavior can trigger an antitrust liability.

Two different situations could trigger anti-competitive concerns: First, undertakers act deceptively during the standardization process to favor the implementation of its technology in the standard affecting the ex-ante or technology market. Second, the SEP owner could act opportunistically in the ex-post market during the licensing phase of the standardization process affecting the product market. These conducts affect the success of the standardization process and deprive consumers of the benefits of standardized technologies.

The studied jurisdictions depict a different treatment regarding the distinction between the legitimate exercise of a patent right and anti-competitive behavior. The European Commission and the European Court of Justice did not hesitate to limit the exercise of patents rights through competition law provisions. In the case of US, courts have been more cautious in restricting the patent owner's rights through antitrust law. In the case of Japan, the legislation is inclined to an interventionist position. However, few cases have reached the courts.

Our research studied the antitrust liability of deceptive practices and the antitrust liability of strategic licensing conducts separately since each conduct arises at different stages in the standardization process.

Regarding deceptive conducts, US courts establish that to bring a successful section 2 claim; the

plaintiff needs to prove that the technology would not have been implemented and no market power would have been acquired but for the deception. Section 2 addresses the unlawful acquisition or maintenance of market power. In the case of Europe, the unilateral conduct provisions are applied to a dominant undertaking at the time of deception. Consequently, the scope of application of the regulation is reduced in comparison to section 2, because very few SEP holder possesses a dominant position ex-ante in the standardization process. In the case of Japan, a substantial restraint of competition is necessary nevertheless no cases have been presented so far.

In the case of strategic licensing conducts, the difference among jurisdictions is more pronounced because while competition authorities in Europe and Japan address exclusionary and exploitative conducts, United States does not consider exploitative practices as anticompetitive. This narrow scope has to lead the FTC to challenged exploitative conducts as section 5 stand-alone offenses nevertheless so far, all cases have been closed thru agreements, and the pundits have criticized its use as an antitrust tool. Once again, the different results are not attributable to the application of different legal standards, but rather reflects the differences in statutory provisions.

The analysis showed that antitrust does not provide for an optimal solution for problems arising in the SEP context. The studied jurisdictions' legal frameworks and court interpretations have gaps that prevent addressing all types of opportunistic behavior. Consequently, other mechanisms have been suggested to mitigate the SEP owner opportunism.

Specifically, authorities support the strengthening of internal rules and clearer provisions from standard setting organizations, the ex-ante disclosure of licensing terms, as well as clearer definition and valuation of FRAND terms.

Regarding SSO internal rules clarification, these suggestions have been more favorably received in Europe than in the US reflecting the interventionist tendencies of the European legal framework in comparison to the United States approach. Japan has not adopted such guidelines so far, but their implementation has been suggested as a good option by the legal community.

Regarding the ex-ante discussion of licensing terms, authorities recognized that if participants revealed the exact licensing terms for their technologies during the standardization process, the SSO would be able to base the selection of the best technology both on quality and price. Furthermore, the SSO prevents the SEP owner for holding up the licensee and demanding unfair royalties after the licensee are locked in the use of the SEP.

In the case of FRAND determination, the United States has been the leading force in adopting a mechanism to define a FRAND royalty based on the incremental value of the SEP. However, while

applying this theory, there are still some conflicting thoughts in the doctrine about not taking into account the increased value of the patent regarding the implementation of the standard. In Japan, for instance, the royalties are defined on the proportionality principle. Moreover, the European Commission provided a list of methods to evaluate FRAND conceptualizing it not as an exact amount but rather as a range that is calculated by comparison with other technologies, the price ex-ante before the standard, as well as calculated with the help of experts.

After analyzing the limitation of antitrust law to address opportunistic conducts, I consider it is necessary for the enforcement agencies to fulfill its role and provide a credible threat of discipline for firms that violate SSO policies. Standard setting organizations typically have limited enforcement powers: while they can threaten to withdraw support for a standard, this happens infrequently and will have little effect when the specification already has a large installed base.

One step in the right direction would be issuing guidelines on when agencies will bring enforcement actions against SSOs for failing to adopt adequate patent policies and enabling hold up conduct by participants. These guidelines should spell out what minimum patent policies SSOs must enact to qualify for a safe harbor and avoid enforcement action. The proposed guidelines would not offer a safe harbor for SSO participants that engage in hold up despite the SSO's procedural safeguards. Furthermore, the suggested guidelines should build on and complement the agencies' record of enforcement actions against parties that engage in hold-up and competition advocacy in the standard-setting arena. Definitely, "one size does not fit all, " and each SSO should have the flexibility to experiment with different approaches to the patent hold-up problem as long as basic fairness is sought and conduct is monitored to see that it is achieved.

These guidelines should establish the following requirements:

- Disclosure:

An SSO participant should be required to disclose patents which it has identified through a good faith reasonable inquiry to be essential or likely to become essential to implementation of the standard being considered. For the disclosure obligation to be effective, an undisclosed patent incorporated into a standard should be licensed on a royalty-free basis. SSOs should establish at least a rebuttable presumption that the failure to disclose any such SEPs was the result of the owner's inability to undertake the required good faith reasonable inquiry. With this rule, technology companies would have the incentive to undertake the required inquiry into their patent portfolios. They would also be encouraged to promote the inclusion of their patents in a standard using fair and open means, rather than through concealment and deception.

- FRAND Commitment:

Patent holders should be required to agree to license patents that are incorporated into the standard on FRAND terms. While FRAND has been criticized for being an amorphous term, it is not entirely devoid of meaning. A FRAND license has a royalty term that reflects a patent's incremental value to the standard before adoption and commercialization. In other words, the royalty should reflect the incremental benefit of including the patent instead of patented or non-proprietary alternatives at the standard selection stage. In contrast, a FRAND royalty does not reflect the value of a patent once a standard has been adopted and commercialized. At this juncture, due to the lock-in effects that arise from commercialization, a patentee, through the threat of injunctions and exclusion orders, may be able to gain appropriate surplus far more than the incremental contribution of its patent or patents. An analogy from contract law instructive in this case would be that a breach of contract action in which the plaintiff contractor had bid on the job in a competitive market, it would not be proper to look at the price charged in a monopoly transaction to determine damages.

- Maximum Royalty Cap:

To reduce the risk of ex-post disputes over FRAND licensing terms, SSOs should consider requiring patentees to disclose at specified times during the standard-setting process the maximum royalty and the most restrictive non-price terms at which they will license their patents. This approach would allow SSO working groups to make fully informed comparisons of cost and technical performance when deciding between competing technologies to incorporate into a standard. Unilateral disclosure of royalty rates and other licensing terms would avoid concerns about the anticompetitive potential of collective negotiations. Also, ex-ante disclosure eliminates or at least reduces the threat of disputes over licensing terms once a standard is commercialized. Individual companies that implement the standard can be confident that the royalty for the patentee's technology will not exceed the stipulated rate.

- Injunctions and Exclusion Orders:

SSOs should prohibit SEP owners that have made licensing commitments from seeking injunctions or exclusion orders against companies that implement the standard. The threat of obtaining court or ITC orders that bar the sale of standard-compliant products enables patentees to engage in hold-up. An injunction puts not just a marginal amount of a company's return at stake, but indeed its entire revenue stream on a particular line of products using the IP. Without this threat, manufacturers would face an equal negotiating landscape and have less incentive to agree to extortionate royalty demands of patentees.

SSOs should make this restriction on injunctions and exclusion orders explicit in their patent policies. Arguably, existing FRAND commitments already bar seeking injunctive relief or exclusion orders and

thereby protect against hold up conduct. This option would not preclude SSOs from considering narrow exceptions to the prohibition on injunctions and exclusion orders. Such an exception might, for example, apply if an infringing implementer refuses to engage in license negotiations on any terms or participate in an available dispute resolution process to establish license terms.

- Transfer of Patent Ownership:

SSO should stipulate that FRAND and other licensing commitments such as an ex-ante disclosure of most restrictive terms run with SEP. Third party assignees of SEP should not have the right to disclaim the original patentee's FRAND commitment. These commitments represent encumbrances on the patent and are transferred with the patent. If patentees can assign their patents without ensuring that the assignee accepts the commitments made by the assignor, FRAND and other ex- ante commitments could be eviscerated with ease. By ensuring adherence to the principle that licensing terms run with the patent and requiring that SEP owners disclose such encumbrances and require any assignee to accept them, SSOs would prevent patent holders from engaging in transactions to escape ex-ante licensing commitments. This requirement would be consistent with a fundamental rule of property law that an assignor cannot "transfer away from a larger interest than it owns."

- Cross Licensing

Licensees should have the option of licensing individual SEPs on a cash-only basis. This rule would prevent the owners of SEPs from demanding cross-licenses of non-SEP patents through coercive means. Without the cash-only royalty option for licensees, owners of SEPs may be able to circumvent the purpose of a FRAND commitment and exercise monopoly power through the acquisition of cross-licenses on non-SEPs at below-market rates. Companies that, however, want to enter into cross-licensing agreements as part of licensing SEPs should not be prohibited from doing so.

- Arbitration

For resolving disputes over what a FRAND license requires, SSOs should establish and require participation in dispute resolution processes that offer a quicker, more cost-effective alternative to litigation. The lack of precision in FRAND royalty and other licensing terms is likely to give rise to disputes between licensors and licensees even when both parties act in good faith. Companies that cannot agree on royalties or other licensing terms should be required to submit to an alternative dispute resolution process. The decision of the arbitrator on royalty and other licensing terms would be binding on both parties. If a manufacturer refuses to enter into arbitration with a patentee, the patentee should be permitted to seek redress in court and at the ITC and obtain injunctive relief and exclusionary orders.

In sum, it is possible to say that competition regulation has a role in ensuring the well-functioning of the standardization process. Its importance arises from its duty to protect consumer welfare and the institutional competition in the standardization process.

Nevertheless, in certain circumstances, courts and administrative authorities should leave other legal disciplines to address opportunistic conducts. Issuing enforcement guidelines can reduce the threat of hold up conduct and provide greater legal certainty to SSO and ensure that collaborative standard setting works in the interest of consumers.

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