

# How Much Is Enough? Standard-Essential Patents and Abuse

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## I. INTRODUCTION

The interplay between competition and patent law in the standard-setting context has been a source of perpetual attention of scholars, regulators, and courts for more than a decade. The central element of the current debate surrounding competition and standard-setting is the concept of a holdup. Originally conceived within the bounds of economic analysis on *ex post* contractual opportunism,<sup>1</sup> the holdup theory has been subsequently explored in the context of standards-essential patents (SEP). An ever-increasing number of scholars are discussing the danger of patent holdup and patent thicket—the “dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology”—as well as the toll on innovation the phenomenon imposes.<sup>2</sup>

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1. See discussion *infra* Section II.A.

2. See Carl Shapiro, *Navigating Patent Thickets Cross Licenses, Patent Pools, and Standard Setting*, 1 INNOVATION POL’Y & ECON. 119, 119-21 (2000) [hereinafter Shapiro, *Navigating Patent Thickets*].

Over the course of time, the concept of a holdup has been accepted by many as an axiomatic and widespread problem. It is not all that uncommon to come across a reference to the global smartphone patent war in which SEP holders seek to ban competitors' products from the market on the basis of their SEPs.<sup>3</sup> However, debates about whether SEPs create opportunities for and actually result in patent holdup, and whether the consequences of patent holdup are all that severe, are far from abating.<sup>4</sup>

The purpose of this Article is two-fold. First, it examines the theoretical and empirical foundation of a holdup theory. Second, it explores whether there is a (low) standard of proof used by United States and European Union competition authorities and courts to assess patent holdup in the standard-setting context. In other words, are there any common-sense dicta of evidence-based decision-making? And if not, should there be?<sup>5</sup>

To this end, Part II discusses the theoretical underpinnings of patent holdup and the type of empirical evidence used to support its existence. Part III identifies U.S. and EU legal instruments in which the theory of holdup has been advanced. Part IV examines these legal instruments setting forth the evolving evidentiary standard employed by U.S. and EU institutions and courts. In doing so, it particularly focuses on the interplay of soft and hard law sources and their impact on the marketplace. Part V summarizes the findings and offers concluding remarks.

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3. *Competition Policy Brief: Standard Essential Patents*, EUR. COMMISSION, at 1 (June 2014), [http://ec.europa.eu/competition/publications/cpb/2014/008\\_en.pdf](http://ec.europa.eu/competition/publications/cpb/2014/008_en.pdf).

4. *See, e.g.*, J. Gregory Sidak, *The Meaning of FRAND, Part II: Injunctions*, 11(1) J. COMPETITION L. & ECON. 201, 231-34 (2015); Joshua D. Wright, *SSOS, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts*, 21 GEO. MASON L. REV. 791, 802 (2014) [hereinafter Wright, *Economics of Incomplete Contracts*] ("This raises the question of why, if incomplete SSO contracts are inherently and systematically imperfect as suggested by some, the empirical evidence of patent holdup is so unremarkable.").

5. *See generally* Joshua D. Wright, *Abandoning Antitrust's Chicago Obsession: The Case for Evidence-Based Antitrust*, 78 ANTITRUST L.J. 301 (2011) (discussing various schools of economic thought and proposing that economic theories should be tested with economic knowledge and empirical data).

## II. THEORETICAL AND EMPIRICAL FOUNDATION OF A PATENT HOLDUP

### A. *The Concept of Holdup*

The threat of a holdup is well-understood in economics.<sup>6</sup> Defined in terms of economic theory of contracts, a holdup occurs “when one contracting party threatens another with economic harm unless concessions are granted by the threatened party.”<sup>7</sup> In essence, holdup is a result of opportunism. Under the transaction cost economics (TCE) approach,<sup>8</sup> opportunism—“[s]elf-interest seeking with *guile*, [including] calculated efforts to mislead, deceive, obfuscate, and otherwise confuse”<sup>9</sup>—can arise when economic actors contract for relationship-specific investments.<sup>10</sup> TCE proposes that the dangers of opportunism in this setting are directly attributable to the concept of asset specificity,<sup>11</sup> which is the “condition where the identity of the parties matters for the continuity of a relationship . . . assets cannot be redeployed to alternative uses or users without loss of productive value.”<sup>12</sup> Once a relationship-specific investment is made by the transactor, the other side of the transaction gains the “ability to take advantage of the specificity to appropriate some of the [relationship-specific assets] the transactor expects to earn on the investment.”<sup>13</sup>

The idea itself is unsurprisingly simple. Undoubtedly, anyone can think of examples of opportunistic behavior predicated by substantial investments in relationship-specific assets: the case of a leaky roof maintenance project that started in the summer and was put on hold right before the rainy season because the contractor (hypothetically, an evil building company) insists on a price renegotiation; the case of a small company structuring its entire production of highly-specialized

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6. Wright, *Economics of Incomplete Contracts*, *supra* note 4, at 796.

7. D. Gordon Smith & Brayden G. King, *Contracts as Organizations*, 51 ARIZ. L. REV. 1, 17-18 (2009).

8. See generally Oliver E. Williamson, *Transaction Cost Economics: An Overview*, in THE ELGAR COMPANION TO TRANSACTION COST ECONOMICS (Peter G. Klein & Michael E. Sykuta eds., 2010) [hereinafter Williamson, ELGAR COMPANION] (discussing the theory of transaction cost economics). “TCE is more interdisciplinary, insistently emphasizes refutable implications, invites empirical testing, and is more concerned with public policy.” *Id.* at 20.

9. OLIVER WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING 61-63 (1985) [hereinafter WILLIAMSON, RELATIONAL CONTRACTING].

10. OLIVER E. WILLIAMSON, THE MECHANISM OF GOVERNANCE 37 (1996).

11. See WILLIAMSON, RELATIONAL CONTRACTING, *supra* note 9, at 32.

12. Steven Tadelis & Oliver Williamson, *Transaction Cost Economics*, in THE HANDBOOK OF ORGANIZATIONAL ECONOMICS 164 (Robert Gibbons & John Roberts eds., 2013).

13. Williamson, ELGAR COMPANION, *supra* note 8, at 25.

components to serve the needs of one big company when the latter threatens to find another contractor unless the price per component is decreased.

This list of examples is hardly exhaustive and one cannot help to notice the same factual pattern: the presence of a “victim” (i.e. poor residents left with a leaking roof, a small company left with no profit prospect), relationship-specific investments (related to already started roof project, the specialized production of components) and opportunism.<sup>14</sup>

### *B. Evidentiary Basis of Holdup*

It makes sense then that ever since its articulation, the issue of a holdup has occupied the minds of a significant number of scholars focusing on potential solutions for the outlined risk.<sup>15</sup> Vertical or lateral integration, long-term contracts, partial ownership agreements, and agreements for both parties to invest in offsetting relationship-specific assets have been proposed and explored as key remedies to a holdup.<sup>16</sup>

One of the key points of the TCE analysis is that the set of potential organizational responses to transaction friction is vast.<sup>17</sup> This attribute indeed offers flexibility and an inclusive framework for matching organizational responses to transaction frictions.<sup>18</sup> At the same time, it undeniably makes it difficult to empirically interpret firms’ decisions and leaves open the possibility of there being diverging perceptions of the facts of such scenarios. The General Motors acquisition of Fisher Body serves as a great illustration of this point.<sup>19</sup> While “perhaps the most extensively discussed example in the economic literature of a holdup due to the presence of specific investments,”<sup>20</sup> the factual scenario nevertheless has not gained full academic support as an actual instance of a holdup.<sup>21</sup>

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14. WILLIAMSON, RELATIONAL CONTRACTING, *supra* note 9, at 61-63.

15. See Peter G. Klein & Howard A. Shelanski, *Transaction Cost Economics in Practice: Applications and Evidence*, 1 J. MKT. FOCUSED MGMT. 281, 281-300 (1996).

16. Peter G. Klein, *New Institutional Economics*, in ENCYCLOPEDIA OF LAW AND ECONOMICS 467 (Boudewijn Bouckaert & Gerrit de Geest eds., 2000).

17. Timothy Bresnahan & Jonathan Levin, *Vertical Integration and Market Structure*, in THE HANDBOOK OF ORGANIZATIONAL ECONOMICS 856 (Robert Gibbons & John Roberts eds., 2013).

18. *Id.*

19. THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 241 (Peter Newman ed., 1998).

20. *Id.*

21. See Benjamin Klein, Robert G. Crawford, & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297, 308-10

Thus, it is important to note that rather than being formulated as a general theory from the outset, the theory of TCE took shape by examining the particulars of economic transactions.<sup>22</sup> This suggests that the evidence pointing the existence of contractual holdup is primarily buttressed by a body of *case studies* looking into the way market participants structure their relationships to *anticipate* the *risk* of a holdup. In terms of the theory deduction, this type of empirical evidence could well be questioned on the basis of its potential resemblance to informal fallacy.<sup>23</sup>

Nevertheless, this does not necessarily imply that the entire theory is wrong. However, according to the canons of logic, it poses an additional requirement as to the soundness of the empirical evidence for its support. Furthermore, it suggests that the decision-makers should be cognizant of theoretical premises and methods of observation employed by theorists in crafting the holdup theory in order to infer the theory's limitations.

### C. *The Theory of Patent Holdup*

In its most used interpretation, patent holdup refers to a general condition where a holder of a patent essential to implementation of a standard set by an standards-setting organization (SSO) is able to demand and obtain higher royalties than he “would have been able to demand ‘but for’ inclusion of their technology in the standard.”<sup>24</sup> In particular, this might happen when the “patents were disclosed but users assert that the patent holder is not meeting its duty to license in a

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(1978) (arguing that the events precipitating General Motor's acquisition of Fisher Body created a holdup); *but see* Ronald Coase, *The Conduct of Economics: The Example of Fisher Body and General Motors*, 15 J. ECON. & MGMT. STRATEGY 255 (2006) (arguing that the events highlighted by Klein et al. as evidence of a holdup never actually happened); Ramon Casadesus-Masanell & Daniel Spulber, *The Fable of Fisher Body Revisited* (Harvard Bus. Sch., Working Paper No. 10-081, 2010), <http://www.hbs.edu/faculty/Publication%20Files/10-081.pdf> (claiming that Klein et al. made “unsupported historical assertions that fail to support his hold-up theory”). Fisher Body had an exclusive contract to supply General Motors with critically important automotive parts. *See* Klein et al., *supra*, at 308. After an unforeseen demand increase for cars in the 1920s, General Motors became unhappy with the price it was being charged and by Fisher Body refusing to locate plants near those of General Motors, which was important for efficiency. *Id.* at 309. General Motors could have agreed to pay a price it saw as too high, but instead it acquired Fisher Body in 1926. *Id.* at 310.

22. Tadelis & Williamson, *supra* note 12, at 159.

23. *See generally* DOUGLAS N. WALTON, INFORMAL FALLACIES: TOWARDS A THEORY OF ARGUMENT CRITICISMS, 185-201 (1987) (discussing fallacious arguments, in particular, the *ad verecundiam* (appeal to authority) type of fallacy).

24. Roger G. Brooks, *SSO Rules, Standardization, and SEP Licensing: Economic Questions from the Trenches*, 9 J. COMPETITION L. & ECON. 859, 871 (2013).

reasonable fashion.”<sup>25</sup> The distinct features predicating a holdup, such as the *sheer number of the relevant patents, their fragmented ownership*, the condition of *strong complementary links in network economies*,<sup>26</sup> means that patent holdup may arise out of a wide variety of licensing arrangements, including Fair Reasonable and Non-Discriminatory (FRAND) commitments administered by SSOs.<sup>27</sup>

In a seminal article on patent thickets and patent holdup, Carl Shapiro proposed that standard-setting in the patent system brings about “the danger that new products will inadvertently infringe on patents issued after the products were designed.”<sup>28</sup> Submitting that this “holdup problem is very real,” he recommended that “both patent and antitrust policy makers regard holdup as a problem of first-order significance in the years ahead.”<sup>29</sup> The holdup problem was subsequently discussed and developed in a series of articles authored by Shapiro and his colleagues.<sup>30</sup> While Shapiro’s articles initially focused on how Cournot’s theory of complements explained the holdup phenomenon generally,<sup>31</sup> his subsequent articles were much more focused on “modeling how standardization results in holdup.”<sup>32</sup>

Shapiro and his colleagues were particularly concerned with a scenario in which a single “downstream firm produces a complex

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25. Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 605 (2007).

26. See William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORNELL L. REV. 385, 403 (2016).

27. Additionally, standards through competition in the marketplace also have the power to produce patent holdup. See U.S. DEP’T OF JUSTICE & U.S. FED. TRADE COMM’N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 34 n.6 (2007). Thus, patent holders of technology patents conforming to standards formed through competition in the marketplace, outside the confines of SSOs, might as well have the same market power allegedly held by an SEP holder.

28. Shapiro, *Navigating Patent Thickets*, *supra* note 2, at 119.

29. *Id.* at 125.

30. See generally Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991 (2007) (discussing the relationship between holdup royalty stacking, the economic problems it creates, and various patent reform proposals); see also Farrell et al., *supra* note 25, at 608; Mark A. Lemley, *Ten Things To Do About Patent Holdup of Standards (and One Not To)*, 48 B.C. L. REV. 149, 154 (2007).

31. See Shapiro, *Navigating Patent Thickets*, *supra* note 2, at 122-24. Cournot’s theory of complements “considered the problem faced by a manufacturer of brass who had to purchase two key inputs, copper and zinc, each controlled by a monopolist.” *Id.* at 123. Cournot’s studies revealed that “the resulting price of brass was higher than would arise if a single firm controlled trade in both copper and zinc, and sold these inputs to a competitive brass industry (or made the brass itself).” *Id.* Additionally, Cournot discovered that “the combined profits of the producers were lower as well in the presence of complementary monopolies. So, the sad result of the balkanized rights to copper and zinc was to harm both consumers and producers.” *Id.*

32. Brooks, *supra* note 24, at 871.

product that potentially or allegedly infringes many patents.”<sup>33</sup> Having outlined the possibility that a patent holder might use the threat of patent litigation as leverage in license negotiations, they concluded that “the threat of an injunction can enable a patent holder to negotiate royalties far in excess of the patent holder’s true economic contribution.”<sup>34</sup> They emphasized that holdup is of particular concern when “the patent itself only covers a small piece of the product, as is common in the industries in which so-called patent trolls predominate.”<sup>35</sup>

Moreover, presenting the issue of a patent holdup as a natural offshoot of the general holdup theory,<sup>36</sup> Shapiro and his coauthors stressed that the patent holdup phenomenon is “both a private problem facing industry participants and a public policy problem.”<sup>37</sup> On one hand, holdup is a public policy problem because there is a concern that “downstream consumers [will be] harmed when excessive royalties are passed on to them.”<sup>38</sup> On the other hand, holdup “can be severe” and:

[I]s a particular problem in the context of [private] standard setting for two reasons. First, when standards are involved, an entire industry may make specific investments that are subject to hold-up. Second, coordination problems can make it especially hard to shift away from an agreed-upon standard in response to excessive royalty demands.<sup>39</sup>

As was examined in Section I.B., the general theory of holdup presupposes that the anticipation of a holdup motivates the structure of contractual relationships.<sup>40</sup> However, Shapiro and his coauthors have not appeared to otherwise expand on the variety of ways and techniques market participants use to avoid the perceived risk of patent holdup.<sup>41</sup>

#### D. Evidence of a Patent Holdup

The existence of FRAND commitments are often cited as indirect evidence of the imminence of patent holdup. According to this line of argument, FRAND commitments serve as a “mechanism by which SSO participants address the problem of patent hold-up when ex ante negotiation was absent or inconclusive, and by which they make efficient

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33. Lemley & Shapiro, *supra* note 30, at 1994.

34. *Id.* at 1993.

35. *Id.* at 2009.

36. See Farrell et al., *supra* note 25, at 603-10.

37. *Id.* at 608.

38. *Id.*

39. *Id.* at 616.

40. Gordon D. Smith, “Branding Effect” of Contracts, 12 HARV. NEGOT. L. REV. 189, 192 (2007).

41. *But see*, Wright, *Economics of Incomplete Contracts*, *supra* note 4, at 796.

timing of negotiation possible without inviting hold-up.”<sup>42</sup> Essentially, this reasoning draws on one of the assumptions of a general holdup theory whereby anticipation of a holdup motivates the structure of contractual relationship.<sup>43</sup> However, it seems too far-fetched to unambiguously assert that the SSO’s patent policies were introduced solely in an attempt to avoid the risk of a holdup. *First*, one extensive study found that although some policies include general statements about what they aim to achieve (such as “ensure availability of necessary licenses,” or “balance between interests of stakeholders”), these are rather abstract, high-level goals that give no insight into where such a specific balance point is intended to be found.<sup>44</sup> Similarly, policies usually fail to define exactly what situations they aim to prevent.”<sup>45</sup> *Second*, the requirement of IPR policy should be seen in the general context of the competition law risks of horizontal cooperation. Considering that the SSO is, in essence, a form of collaboration of potential or real competitors,<sup>46</sup> the presence of the IPR policy as such might be read as an attribute of compliance with the competition law requirements. *Finally*, the assumption that the FRAND commitments are solely an attempt to avoid patent holdup raises a question of the alleged inefficiency of licensing commitments. In other words, it would mean that even with FRAND commitments in place, rationally acting companies are either not really concerned with the potential detrimental effect of a holdup, or cannot oppose and prevent it on a regular basis. The very logic of a general holdup excludes the former assumption. As a result, one is left with the proposition that the SSO’s participants cannot oppose systematic and unavoidable holdup due to the inefficiency of the licensing commitments.

Conversely, the FRAND commitments are widely recognized as a flexible instrument balancing interests of both parties to a transaction.<sup>47</sup> Seen from this two-sided market perspective, an SSO needs to attract members on both sides of the platform. In this paradigm, the IPR policy

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42. Farrell et al., *supra* note 25, at 637.

43. Smith, *supra* note 40, at 192.

44. Rudi Bekkers & Andrew S. Updegrave, *A Study of IPR Policies and Practices of a Representative Group of Standards Setting Organizations Worldwide* (Sep. 17, 2012), [http://home.tn.tue.nl/rbekkers/nas/Bekkers\\_Updegrave\\_NAS2012\\_main\\_report.pdf](http://home.tn.tue.nl/rbekkers/nas/Bekkers_Updegrave_NAS2012_main_report.pdf).

45. *Id.*

46. Justus Baron & Tim Pohlmann, *Who Cooperates in Standards Consortia—Rivals or Complementors?*, 9 J. COMPETITION L. & ECON. 905, 922 (2013).

47. Jorge L. Contreras, *Patent Pledges*, 47 ARIZ. ST. L.J. 543, 578 (2015); *see also* Anne Layne-Farrar, Gerard Llobet & Jorge Padilla, *Payments and Participation: The Incentives To Join Cooperative Standard Setting Efforts*, 23 J. ECON. & MGMT. STRATEGY 24, 26 (2014).

in general and FRAND commitments in particular are seen as a compromise.<sup>48</sup> The risk of a holdup ultimately lies on both side of the equation—technologies contributors and implementers. Assuming rational behavior of SSO members, the incompleteness of FRAND contracts seems to be rather in line with the presence of a competitive contracting process and contrary to its claimed inefficiency.

In any event, the alleged costs of a patent holdup, and the diverging opinions as to the source and implications of such costs, make the issue of establishing an evidentiary basis for the phenomenon an ever more pressing problem. Consistent with the patent holdup theory as outlined above, one might see several kinds of evidence supporting the holdup theory. First, one might expect to see evidence that the parties to a transaction give special consideration to the risk of holdup in structuring their relationship. Unfortunately, this type of evidence might be difficult to acquire due to its confidential nature.<sup>49</sup> Second, one might expect to see a significant number of court cases where over-rewarded patent holders are accused of patent holdup. However, the limited number of cases dealing with patent holdup claims suggests that the holdup, as a problem, might not be so systemic.<sup>50</sup>

Alternatively, given that the significant costs associated with patent holdups translate into suppressed incentives to innovate, the possibly reduced output and higher prices to customers,<sup>51</sup> there might be at least two possible testable implications. First, the measurement of investment specificity in a patent holdup case could indicate the gravity of the problem.<sup>52</sup> Second, the rate of innovation and price trends in the industry could be a proxy. The studies on the rate of innovation and price

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48. See, e.g., Olga Kokoulina & Timo Minssen, *More Competition Law-FRANDly Policies: A Solution to SSOs' Problems of Self-Governance?*, in *USER GENERATED LAW: RE-CONSTRUCTING INTELLECTUAL PROPERTY LAW IN THE KNOWLEDGE SOCIETY* (Thomas Riis ed., 2016) (discussing the reasons and benefits of FRAND flexibility as seen from the perspective of SSOs).

49. Ann Armstrong, Joseph J. Mueller & Timothy D. Syrett, *The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones* (unpublished manuscript), [https://www.wilmerhale.com/uploadedFiles/Shared\\_Content/Editorial/Publications/Documents/The-Smartphone-Royalty-Stack-Armstrong-Mueller-Syrett.pdf](https://www.wilmerhale.com/uploadedFiles/Shared_Content/Editorial/Publications/Documents/The-Smartphone-Royalty-Stack-Armstrong-Mueller-Syrett.pdf) (“Most licensing agreements are confidential because patent holders and licensees alike have an intense interest in keeping that information out of the public view.”).

50. Nevertheless, it is important to stress that this point does not automatically disprove the existence of the *holdup risk*. The limited number of cases might be interpreted as an indicator that transacting parties can efficiently accommodate this risk. That is to say the risk of holdup does not necessarily mean a *problem* that calls for regulatory intervention.

51. See Lemley & Shapiro, *supra* note 30, 2015-16.

52. To the best knowledge of the author of this Article, empirical research on investment specificity has been notably missing from the rhetoric of patent holdup until now.

dynamics in the industry<sup>53</sup> provide rather convincing evidence to refute a claim about the prevalence of the patent holders' overcompensation and its harmful effect on innovation.

### III. SELECTION OF SOURCES

Having discussed the theoretical and empirical underpinnings of patent holdup, the ensuing discussion turns to the evidentiary basis of the antitrust enforcement in holdup cases. The following legal instruments seem to be of the utmost relevance in this analysis: (1) soft law instruments issued by the EU Commission, Federal Trade Commission (FTC), and the Antitrust Division of the U.S. Department of Justice (DOJ) (Section III.A.); (2) antitrust authorities' decisions (Section III.B.); and (3) courts' judgments (Section III.C.).<sup>54</sup>

With regard to sources in the first group, one has to emphasize a significant role these instruments play in conveying the respective positions of the antitrust authorities on patent holdup and the enforcement of SEP.<sup>55</sup> Without addressing the thorny issue of the exact scope soft law,<sup>56</sup> for the purposes of this Article, soft law can be defined as "rules of conduct which, in principle, have no legally binding force but which nevertheless may have practical effects."<sup>57</sup> Examples of soft law instruments include reports, reviews of proposed business conduct, policy statement, notices and guidelines issued by U.S. and EU Commissions and agencies. In particular, this Article turns to: (1) the Communication from the Commission of the European Communities of

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53. Keith Mallinson, *Smartphone Revolution: Technology Patenting and Licensing Fosters Innovation, Market Entry, and Exceptional Growth*, 4 IEEE CONSUMER ELECTRONICS MAG., Apr. 13, 2015, at 60; Alexander Galetovic, Stephen H. Haber & Ross Levin, *An Empirical Examination of Patent Hold-Up* (Nat'l Bureau of Econ. Research, Working Paper No. 2109, 2015).

54. It is neither an aim of this Article to offer an exhaustive list of decision-making practices involving SEPs, nor is it its ambition to engage in an extensive discussion of the issues of competence, federalism, and sources of law under this perspective. Rather, the selected materials merely exemplify the approaches decision-makers in the EU and the United States follow on the issue of patents and standards.

55. Although relevant, the legal instruments issued by the United States International Trade Commission, as well as United States District Courts and the European national courts, will not be discussed.

56. See generally Håkon A. Cosma & Richard Whish, *Soft Law in the Field of EU Competition Policy*, 14 EUR. BUS. L. REV. 27-30 (2003) (discussing the scope of soft law and the different ways the term has been used in the EU).

57. Francis Snyder, *The Effectiveness of European Community Law: Institutions, Processes, Tools and Techniques*, 56 MODERN L. REV. 19, 32 (1993).

October 27, 1992 on Intellectual Property Rights and Standardization;<sup>58</sup> (2) the European Commission's Notice concerning case No. IV/35.006—ETSI interim IPR policy;<sup>59</sup> (3) the European Commission's Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements of January 14, 2011;<sup>60</sup> (4) the FTC's Report: "The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition" published in 2011;<sup>61</sup> (5) the DOJ's & USPTO's "Policy Statement On Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments issued in 2013";<sup>62</sup> (6) the DOJ Business Review Letter of February 2, 2015 issues in response to the request of the Institute of Electrical and Electronics Engineers (IEEE).<sup>63</sup>

The next group of sources—the decisions of antitrust authorities in individual cases—is notably different from the examples of soft law mentioned above. For example, in the context of the European law, it is explicitly stated that the decision "shall be binding in its entirety. A decision which specifies those to whom it is addressed shall be binding only on them."<sup>64</sup>

In the area of patents and standards, relevant decisions mainly come from the practice of the European Commission in EU cases and the FTC in U.S. cases. Broadly speaking, all the relevant patent holdup cases

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58. *Communication from the Commission—Intellectual Property Rights and Standardization*, COM (1992) 445 final (Oct. 27, 1992), <http://aei.pitt.edu/1222/1/1222.pdf> [hereinafter *Intellectual Property Rights and Standardization*].

59. Notice Pursuant to Article 19(3) of Council Regulation No. 17 concerning case No. IV/35.006, *ETSI Interim IPR Policy*, 1995 O.J. (C 76) 5, <http://publications.europa.eu/en/publication-detail/-/publication/6dfe339c-4e22-4cf4-93ac-73bb43e6fd8f/language-en> [hereinafter *Notice, ETSI Interim IPR Policy*].

60. *Communication from the Commission—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, [http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52011XC0114\(04\)](http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52011XC0114(04)) [hereinafter *Horizontal Guidelines*].

61. FED. TRADE COMM'N, *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION* (2011), <https://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf> [hereinafter *FTC IP MARKETPLACE REPORT*].

62. U.S. DEP'T OF JUSTICE & U.S. PATENT & TRADEMARK OFFICE, *POLICY STATEMENT ON REMEDIES FOR STANDARDS—ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS* (Jan. 8, 2013), <http://www.justice.gov/atr/public/guidelines/290994.pdf> [hereinafter *POLICY STATEMENT*].

63. Letter from Hon. Renata B. Hesse, Acting Assistant Attorney Gen., U.S. Dep't. of Just., to Michael A. Lindsay, Esq., Dorsey & Whitney, L.L.P. (Feb. 2, 2015), <http://www.justice.gov/file/338591/download> [hereinafter *IEEE Business Review Letter*].

64. Consolidated Version of the Treaty on the Functioning of European Union art. 288(4), Oct. 26, 2012, 2012 O.J. (C 326).

adjudicated by these institutions concern: (1) deception in the standard-setting process, and (2) FRAND commitments.<sup>65</sup>

It is important to note, that both the U.S. and EU antitrust authorities greatly rely on consent decrees, settlements, and commitment decisions in their practice.<sup>66</sup> As methods of antitrust enforcements, these decisions do not represent adjudication on the merits.<sup>67</sup> Rather they typically entail the acceptance of voluntary commitments by the party under investigation.<sup>68</sup> Submission of these concessions does not acknowledge the fact of infringement.<sup>69</sup> By assuming the commitments, the party in the investigation proceedings, in effect, eliminates the grounds for the enforcement action. This aspect of this type of enforcement mechanism makes it challenging to determine the exact reason behind the outcome of an adjudicated dispute. Publicly available memoranda, press releases, Question & Answer sheets and the like in these contexts seems to provide little, if any added insight to the analysis of the outcomes of the disputes.

Therefore, the section focuses on the EU Commission's decision in *Motorola*. As a decision adopted pursuant to Article 7 of the Regulation on the application of the rules of the competition in the EU,<sup>70</sup> it contains the finding of infringement, elaborates on the theory of harm, and is generally more comprehensive than the commitment decisions on the issue.<sup>71</sup>

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65. Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits to Antitrust: An Application to Patent Holdup*, 5 J. COMPETITION L. & ECON. 1, 501 (2011); Anne Layne-Farrar, *Proactive or Reactive? An Empirical Assessment of IPR Policy Revisions in the Wake of Antitrust Actions*, 59(2) ANTITRUST BULL. 373, 380 (2014).

66. See George S. Georgiev, *Contagious Efficiency: The Growing Reliance on U.S.-Style Antitrust Settlements in EU Law*, 2007 UTAH L. REV. 971, 973 (2007); Niamh Dunne, *Commitment Decisions in EU Competition Law*, 10 J. COMPETITION L. & ECON. 399, 401 (2014). According to the findings of the Report prepared by the Organisation for Economic Co-operation and Development (OECD), the DOJ "resolved nearly its entire antitrust civil enforcement docket by consent decree from 2004 to present." *Commitment Decisions in Antitrust Cases*, ORG. ECON. CO-OPERATION & DEV. at 8 (June 22, 2016), [https://one.oecd.org/document/DAF/COMP\(2016\)7/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)7/en/pdf). The FTC closed 93% of its competition cases by consent orders since 1995. *Id.* Finally, the EU Commission, according to the report, completed over 60% of the non-cartel cases with commitment decisions taken between May 2004 and February 2014. *Id.*

67. Georgiev, *supra* note 66, at 973.

68. See *id.*

69. See *id.*

70. 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 001) 1 (EC), <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32003R0001>.

71. See Dunne, *supra* note 66, at 399 (discussing the EU commitment vis-a-vis prohibition decisions).

The final type of legal instruments considered in the analysis is court judgments. Essentially, there are two important decisions rendered on the issue: (1) the United States Court of Appeals for the Federal Circuit's decision in *Ericsson, Inc. v. D-Link Systems, Inc.*;<sup>72</sup> and (2) the Judgment of the Court of Justice of the European Union (CJEU) in *C-170/13, Huawei Technologies Co. Ltd. v. ZTE Corp., ZTE Deutschland GmbH*.<sup>73</sup>

#### IV. ANALYSIS

This Part aims to address the following questions: (1) What influence do legal instruments have on competition in the marketplace?; (2) Is there a common-sense dicta of evidence-based decision-making?; and if so (3) Is there nevertheless a low standard of proof applied in the legal assessment of the theories and evidence underlying the rather sensitive area of standards and patents?

##### A. *Soft Law Instruments*

The EU Commission's Communication on IPR and standardization dates back to 1992, thus actually predating extensive academic debates on the issue.<sup>74</sup> The language of the Communication is rather peculiar. Emphasizing the voluntary nature of standard making, the Commission, nevertheless, proceeds by suggesting that non-compliance with certain principles laid down further in the document by standards bodies results in a situation where "the Community will not be able to use their standards and even less, to make them mandatory."<sup>75</sup> The Commission pays a great deal of attention to the issues of IPR in standards. First, it notes that "wherever possible, standards should be devised which avoid taking over proprietary technology on which IPR already exist."<sup>76</sup> The Commission further seemingly distinguishes situations of (1) "most

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72. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201 (Fed. Cir. 2014).

73. *Case C-170/13, Huawei Tech. Co. Ltd. v. ZTE Corp., ZTE Deutschland GmbH* (July 16, 2015), [http://curia.europa.eu/juris/document/document.jsf?text=&docid=165911&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=1117645#Footnote\\*](http://curia.europa.eu/juris/document/document.jsf?text=&docid=165911&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=1117645#Footnote*).

74. The earliest mention of a "patent holdup" seems to be in the writing of Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990). However, the concept of a patent hold up was not extensively discussed until a few years later, in Carl Shapiro's *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, *supra* note 2, at 120, and a series of articles later co-authored by Professors Shapiro, Lemley, Farrell, and others. See, e.g., Lemley & Shapiro, *supra* note 30; Farrell et al., *supra* note 25, at 608; Lemley, *supra* note 30, at 154.

75. *Intellectual Property Rights and Standardization*, *supra* note 58, at 1.

76. *Id.* at 14.

standardization work that either no intellectual property rights exist or are created, or that there is express consent to free use of the intellectual property or waiver of any rights arising or acquired”<sup>77</sup> and (2) “de facto” standards and relevant IP. Importantly, the Commission proceeds by specifying that “if there are proprietary IPR underlying the technology on which standard is to be based and the fact is known to standard makers, then the agreement of the right holder must be sought.”<sup>78</sup> If agreement is reached between the right holder and the standard-making body, the terms for licenses must be fair, reasonable and non-discriminatory.<sup>79</sup>

The Commission further elaborates on possible scenarios where the right holder refuses to license or disclose his relevant IPRs however stressing that “no cases have been drawn to the attention of the Commission as yet where the owner of IPR in a technology refused to license his rights to enable an already agreed standard to be subsequently implemented.”<sup>80</sup> Importantly, in discussing this scenario, the Commission stressed the lack of any evidence supporting the actual materialization of such a scenario and warned of possible complications related to enforcement actions in this regard.

The next example of a relevant soft law instrument—the EU Commission’s Notice regarding case IV/35.006—should be placed in a proper historical and institutional context. The Notice refers to the interim IPR policy adopted by the European Telecommunications Standards Institute’s (ETSI’s) in 1994.<sup>81</sup> The policy allowed members “in advance to allow their IPRs deemed ‘essential’ . . . for an ETSI standard, to be included in that standard, unless the IPR-owner had identified any IPR it wished to withhold within a certain period” (a so called “licensing-by-default” obligation).<sup>82</sup> In response to the policy change, the Business Equipment Manufacturers Association (CBEMA) filed a complaint alleging that ETSI’s proposed policy effectively amounted to a compulsory licensing scheme.<sup>83</sup> Although the complaint was never formally addressed, the ETSI abandoned this “licensing-by-default” obligation to achieve greater consensus amongst its members.<sup>84</sup>

The Commission’s Notice provides an account of this failed policy change attempt. Nevertheless, it explicitly states that “the present Notice

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77. *Id.*

78. *Id.* at 16.

79. *See id.*

80. *Id.* at 15.

81. Notice, *ETSI Interim IPR Policy*, *supra* note 59, at 5.

82. *Id.* at 6.

83. *Id.*

84. *Id.*, at 6.

thus relates only to the interim IPR policy as revised.”<sup>85</sup> The Commission, though, does not miss the opportunity to point to the risk present at the SSO: “[t]he development and ultimate application of a given standard can be held up or even made impossible if the standard incorporates proprietary technology and the owner of that technology is not willing to make it available for third parties wishing to manufacture products complying with the standard.”<sup>86</sup> The Commission further points to the previously adopted Communication<sup>87</sup> where, as it states, the problem has been addressed in a general context and some relevant policy considerations were set.<sup>88</sup>

Finally, the Commission’s Guidelines on the Applicability of Article 101 of the TFEU to Horizontal Co-operation Agreements (Horizontal Guidelines) are one of the most important instruments in the EU decision-making practice on standards and patents. The Guidelines state that:

where participation in standard-setting is unrestricted and the procedure for adopting the standard in question is transparent, standardization agreements which contain no obligation to comply with the standard and provide access to the standard on fair, reasonable and non-discriminatory terms will normally restrict competition within the meaning of Article 101(1).<sup>89</sup>

The Guidelines further suggest that FRAND commitments are designed to ensure the access to IPR protected technology<sup>90</sup> and “prevent IPR holders from making the implementation of a standard difficult by refusing to license or by requesting unfair or unreasonable fees (in other words excessive fees) after the industry has been locked-in to the standard or by charging discriminatory royalty fees.”<sup>91</sup>

It is important to note that the document explicitly addresses the risk of holdup just once. The Commission states that:

a participant holding IPR essential for implementing the standard could, in the specific context of standard-setting, also acquire control over the use of a standard . . . and behave in anti-competitive ways, for example “hold-up” users after the adoption of the standard either by refusing to license the

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85. *Id.* at 5.

86. *Id.* at 5-6.

87. *See id.*

88. *See id.*

89. Horizontal Guidelines, *supra* note 60, at 282-91.

90. *Id.*

91. *Id.*

necessary IPR or by extracting excess rents by way of excessive royalty fees thereby preventing effective access to the standard.<sup>92</sup>

However, the Guidelines nevertheless do not refer to theoretical or empirical support suggesting the pervasiveness and a problematic nature of patent holdup.

Turning to the developments in the United States, the matter of a holdup, at first sight, was subjected to a more extensive inquiry. In 2011, the FTC issued a report “The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition” based on extensive hearings, a joint FTC-USPTO-DOJ workshop, over fifty written comments submitted to the agency, three oral testimonies, and independent research.<sup>93</sup> The Report generally focuses on the patent law dimension of innovation and competition.<sup>94</sup> More specifically, the key issues discussed by the Report are patent quality, patent remedies, and the notice function.<sup>95</sup> Interestingly, the structure of the Report and the use of the holdup theory suggest that the notion of a holdup should be considered in two distinct contexts. The first is a risk context, where holdup is an imminent risk originating from poor patent notice.<sup>96</sup> The second is a remedial context, where holdup in the standard-setting context aggravates calculations of reasonable royalty damages<sup>97</sup> and complicates the decision to issue an injunction.<sup>98</sup> Presenting the risk of a holdup in terms of its costs to the infringer and its potential to unjustly enrich the patentee, the concept of a holdup is not supported by any further qualifying statements.<sup>99</sup> More specifically, the Commission does not

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92. *Id.*

93. FTC IP MARKETPLACE REPORT, *supra* note 61, at 2.

94. *See generally id.* Some practitioners have heavily criticized the Report. *See, e.g.,* Richard S. Taffet, *The Federal Trade Commission’s Evolving IP Marketplace Report’s Challenge to Inventiveness, Innovation, and Competitiveness*, 2012 A.B.A. ANTITRUST SEC.: ANTITRUST SOURCE 1, [http://www.americanbar.org/content/dam/aba/publishing/antitrust\\_source/feb12\\_taffet\\_2\\_27f.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/feb12_taffet_2_27f.authcheckdam.pdf). IP Report does not appear to address any actual marketplace failures, anticompetitive distortions, or limitations on innovation, but instead proposes reforms that would reorder existing legal and economic principles and impose a wealth transfer from patent owners to downstream patent users, which could deter innovation—an effect directly contrary to the report’s stated purpose. *Id.*

95. FTC IP MARKETPLACE REPORT, *supra* note 61, at 7.

96. *See id.* at 78-79 (“When poor patent notice leads innovative firms to launch products despite uncertainty regarding potential infringement, they risk facing patent assertions post launch . . . . [t]he alleged infringer . . . may be forced to pay higher royalties than it would have negotiated prior to launch. These risks increase expected costs.”) (footnote omitted).

97. *Id.* at 22-23.

98. *Id.* at 28 (discussing whether the denial of an injunction would cause irreparable harm in the standard-setting context).

99. *See, e.g., id.* at 144.

seem to offer any empirical evidence to substantiate the risk of a patent holdup or dwell upon the robustness or severity of the holdup theory.

The Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments issued by the DOJ & U.S. Patent & Trademark Office (USPTO) in 2013 presents another thought-provoking example. The Statement devotes a part of its discussion to the issue of patent holdup costs<sup>100</sup> and its ability to harm consumers and competition.<sup>101</sup> While the recommendations of the DOJ and the USPTO are based on an FTC Report published in 2007,<sup>102</sup> the Statement does not provide any further empirical evidence supporting that patent holdup is an actual problem.

The final example of the instruments in this category is the business review letter. As a matter of practice, the DOJ uses the format of the letter to “review proposed business conduct and state its enforcement intentions.”<sup>103</sup> In this context, the letter issued by the DOJ to the Institute of Electrical and Electronics Engineers (IEEE) is particularly interesting. It was issued with regard to the IEEE’s IPR policy change that sought to clarify the availability of injunctive relief and royalty calculation.<sup>104</sup> The letter explicitly states that the proposed IPR policy amendments “may further help to mitigate hold-up.”<sup>105</sup> As evidence of the holdup’s existence, it points to the body of literature on a general theory of a holdup, without offering any additional empirical findings on the issue.<sup>106</sup>

Having reviewed a few selected examples of decision-making practice referred above as “soft law” instruments, it is important to highlight the undeniable influence on competition and the marketplace.<sup>107</sup> First and foremost, the instruments of “soft law” are used to elucidate the

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100. POLICY STATEMENT, *supra* note 62.

101. *Id.* at 6.

102. *See id.* at 4 (citing U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 33-57 (2007), <https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf>).

103. Antitrust Division Bus. Rev. Proc., 28 C.F.R. § 50.6 (2014).

104. *See* Gregory Sidak, *The Antitrust Division’s Devaluation of SEPs*, 104 GEO. L.J. 48 (2015) (chronicling the events and description of the process) [hereinafter Sidak, *Devaluation of SEPs*].

105. IEEE Business Review Letter, *supra* note 63, at 6.

106. *Id.* at 6 n.28.

107. Nicolas Petit & Miguel P.L. Rato, *From Hard to Soft Enforcement of EC Competition Law—A Bestiary of ‘Sunshine’ Enforcement Instruments*, in ALTERNATIVE ENFORCEMENT TECHNIQUES IN EC COMPETITION LAW 185 (Charles Gheur & Nicolas Petit eds., 2009).

competition authorities' approach to various types of business conduct.<sup>108</sup> The issuance of the guidelines, statements, letters and the like contributes to the overall transparency in administering competition law.<sup>109</sup> It also enhances the degree of predictability of antitrust enforcement, and, as a consequence, introduces legal certainty for market participants.<sup>110</sup>

The examples of soft law instruments reviewed above suggest that the competition law authorities, while repeatedly citing the "holdup" concern, essentially provide no reference to the empirical research in support of their standpoint. Given a polarized nature of debates on holdup, it is possible to argue that this fact might have a detrimental effect on the market dynamics. By endorsing the idea of holdup pervasiveness, the soft law instruments might disadvantage SEP holders in licensing negotiations by unduly deterring the otherwise legitimate assertion of the IP rights.<sup>111</sup> Furthermore, it might have deleterious effects on private coordination on the marketplace. For example, in cases where SSOs are prompted to adjust their IPR policy in response to the concerns voiced in soft law instruments and not due to the internally experienced problems of a systemic holdup.<sup>112</sup> As a consequence, it might not be the risk of patent holdup, but its prevention that has a potential to introduce imbalance into standardization process.

### B. *The EU Decision in Motorola Mobility*

As was noted above, the consensual character of the enforcement actions on the issue places certain limits on the ability to identify the positions and reasoning of decision-makers. However, a closer look at the European Commission's decision in *Motorola* suggests that the Commission not only follows the ideas underlying holdup theory, it actually qualifies its decision as a confirmation of the holdup phenomenon. The Commission's decision in *Motorola* suggests that seeking and enforcing an injunction on the basis of FRAND-encumbered SEPs might be an abuse of dominance in EU competition law.

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108. See Harry First, Eleanor Fox & Daniel E. Hemli, *The United States: The Competition Law System and the Country's Norms*, in THE DESIGN OF COMPETITION LAW INSTITUTIONS: GLOBAL NORMS, LOCAL CHOICES 368 (Eleanor M. Fox & Michael J. Trebilcock eds., 2012).

109. See *id.*

110. See *id.* at 367.

111. See Richard A. Epstein, F. Scott Kieff & Daniel F. Spulber, *The FTC, IP, and SSOs: Government Hold-up Replacing Private Coordination*, 8 J. COMPETITION L. & ECON. 1, 1-46 (2012); see also Luke Froeb, Bernhard Ganglmair & Gregory J. Werden, *Patent Hold Up and Antitrust: How a Well-Intentioned Rule Could Retard Innovation*, 60 J. IND. ECON., 249, 249-73 (2012).

112. See, e.g., Sidak, *Devaluation of SEPs*, *supra* note 104.

In its decision, the Commission rules that Motorola violated article 102 of the TFEU “in these exceptional circumstances of the case and in the absence of any objective justification.”<sup>113</sup> It reasons that the ETSI’s IPR Policy seeks to “prevent patent ‘hold-up’ and to balance the public benefits of standardization in the field of telecommunications with the rights of SEP holders.”<sup>114</sup> It further describes the patent holdup problem by merely referring to the provision of the Guidelines on horizontal cooperation agreements examined above. It then questions the foundation of *Motorola’s* assertion that there are natural constraints to patent holdup such as the consideration of the reputational costs due to the “repeat game” nature of standard-setting.<sup>115</sup>

Importantly, *Motorola* departs from the established line of EU cases on vexatious litigation whereby bringing a legal suit could be found abusive only in “wholly exceptional” circumstances when the party initiates the proceedings only to harass the opposite party and eliminate competition.<sup>116</sup> By disregarding this test in the *Motorola* decision, one would expect the Commission to elaborate more on the perils of the holdup problem and, perhaps, offer empirical evidence to substantiate its reasoning. However, the Commission essentially left the question of theoretical and empirical underpinning of holdup without further consideration.

### C. European and U.S. Court Judgments

The last legal instruments analyzed in this Article are two court judgments: the United States Court of Appeals for the Federal Circuit’s decision in *Ericsson v. D-Link* and Judgment of the CJEU in *C-170/13, Huawei Technologies Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH*. From the outset, it appears these two judgments represent different approaches to the question of whether theory and empirical evidence support the existence of a patent holdup.

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113. Case at 39985—*Motorola—Enforcement of GPRS Standard-Essential Patents* (EC) 1/2003 of Apr. 29, 2014, art. 7, 2, [http://ec.europa.eu/competition/antitrust/cases/dec\\_docs/39985/39985\\_928\\_16.pdf](http://ec.europa.eu/competition/antitrust/cases/dec_docs/39985/39985_928_16.pdf).

114. *Id.* at 11.

115. *Id.* at 49. Repeated game is the proposition that due to the fact that standard setting implies recurrent meetings of the working groups to establish a standard, the opportunism is efficiently constrained: engaging in a deceptive behavior would entail significant reputational costs for the party. See Joanna Tsai & Joshua D. Wright, *Standard Setting, Intellectual Property Rights, and the Role of Antitrust in Regulating Incomplete Contracts*, 80 ANTITRUST L.J. 157, 166 n. 31 (2015).

116. Case T-111/96, *ITT Promedia NV v. Comm’n*, 1998 E.C.R. II-2937; *Protégé International*, Judgment of 13 September 2012, not yet reported.

In the Federal Circuit's decision in *Ericsson*, the court points to the fact that "SEPs pose two potential problems that could inhibit widespread adoption of the standard: patent hold-up and royalty stacking" and that "[p]atent hold-up exists when the holder of a SEP demands excessive royalties after companies are locked into using a standard."<sup>117</sup> However, the court then weighs whether jury instructions on FRAND commitments should inform the jury about the lack of empirical evidence supporting the holdup theory. The court holds: "[i]n deciding whether to instruct the jury on patent hold-up and royalty stacking, again, we emphasize that the district court must consider the evidence on the record before it. The district court need not instruct the jury on hold-up or stacking unless the accused infringer presents actual evidence of hold-up or stacking."<sup>118</sup>

Addressing the quality of required evidence, the Federal Circuit emphasizes that it is not sufficient to present a general argument that holdup is a possibility.<sup>119</sup> As the court states: "a court should not instruct on a proposition of law about which there is no competent evidence."<sup>120</sup> Consequently, the Federal Circuit upheld the district court's decision not to instruct the jury about the theoretical risk of patent holdup and royalty stacking on the grounds that the plaintiff did not provide empirical evidence of the problem.<sup>121</sup>

In contrast, the CJEU spent no time discussing the theoretical and empirical evidence when presented with the chance in the *Huawei* decision.<sup>122</sup> In its judgment following the request for a preliminary ruling from the Düsseldorf Regional Court, the CJEU briefly mentions a holdup as a "case where it is possible for a proprietor of an SEP to obtain excessively high royalties" and a "reverse hold-up" as a situation where the infringer has the ability to claim excessively low royalties.<sup>123</sup>

Importantly, the purpose of the EU preliminary rulings procedure is to "give an interpretation of European Union law or to rule on its validity, not to apply that law to the factual situation underlying the main

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117. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1209 (Fed. Cir. 2014).

118. *Id.* at 1234.

119. *Id.*

120. *Id.*

121. *See id.* at 1235.

122. Case C-170/13, *Huawei Tech. Co. Ltd. v. ZTE Corp., ZTE Deutschland GmbH*, (July 16, 2015), [http://curia.europa.eu/juris/document/document.jsf?text=&docid=165911&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=1117645#Footnote\\*](http://curia.europa.eu/juris/document/document.jsf?text=&docid=165911&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=1117645#Footnote*).

123. *Id.*

proceedings.”<sup>124</sup> Therefore, in substance, the rulings generally follow the logic of questions proposed by the referred court. In the case at hand, the German Court neither raised the question of dominance, nor challenged the pervasiveness of holdup. That might, to some extent, explain the reason behind the salient silence of the CJEU on the issue of a holdup. At the same time, the Court, as a matter of practice, is not constrained in providing any further qualifications on the issue shall it find it necessary. Thus, it is open for a debate whether the *Huawei* ruling should be interpreted as endorsement of the Commission’s position on the issue, or, by contrast, is a sign of a cautious approach on the side of the CJEU.

## V. FINDINGS AND CONCLUDING REMARKS

This Article started with two seemingly simple questions: what evidence of holdup is available and to what extent do decision makers actually rely on theoretical or empirical evidence of the phenomenon. This Article then examined the theoretical underpinnings and empirical evidence of patent holdup and analyzed selected examples of relevant legal instruments and decision-making practices. As revealed, the question of the evidentiary basis of a holdup phenomenon seems to be a concern present on both sides of the Atlantic.

Notably, the instruments of soft law such as guidelines, reviews of proposed business conduct, and the like, are indiscriminately employed by the United States, as well as the EU authorities, to propose the perils of a patent holdup. On the one hand, this fact should not be immediately perceived negatively. On the other hand, if subsequent enforcement decisions are based on these soft law instruments, then it is fair enough to wonder: how much is enough? What is the proper avenue for policy change and should there be limits on such policy change?

Following the proposal to refer to the “patent-hold-up conjecture” in the strict Popperian sense of an *a priori* hypothesis that must survive rigorous attempts at falsification,<sup>125</sup> there appear to be more attempts by decision-makers to “confirm the conjecture” of patent holdup without taking into consideration academic attempts to actually refute it.

Such a decision-making manner inevitably raises the question of its impact. In this light, the antitrust dimension of the issue seems to be the most problematic one. Given the possible deleterious effect of the over-enforcement on incentives to innovate, it appears that the requirement of

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124. Recommendation to National Courts and Tribunals in Relation to the Initiation of Preliminary Ruling Proceedings, 2012 O.J. (C 338) 1, 2, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:338:0001:0006:EN:PDF>.

125. Sidak, *Devaluation of SEPs*, *supra* note 104, at 53.

solid evidence for a policy decision should be taken more seriously. So far, the discussion on the costs of enforcing the policies, bolstered by economic theory but not supported by empirical evidence, is largely absent in the decision-making process.