# FRAND in China

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Standards are a ubiquitous part of life for compatibility and interoperability of certain products and services. They help to coordinate economic activity to ensure that various components work together.<sup>1</sup> This coordination creates a social welfare gain in many cases.

A standard-setting organization (SSO) coordinates across its members to develop and ensure the availability of standards.<sup>2</sup> Typically, SSO members disclose those of their patents that could be essential to a standard, and SSOs request disclosing members to commit to license those that are actually essential—it is not possible as a technical matter to make or use a standard-compliant product without infringing the patent—either on a royalty-free basis or on fair, reasonable, and non-discriminatory (FRAND) terms.<sup>3</sup> However, in certain circumstances, standards may have anti-competitive effects through collusion<sup>4</sup> or through unilateral conduct such as patent hold-up.<sup>5</sup>

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<sup>&</sup>lt;sup>1</sup> U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 33 (2007) ("Industry standards are widely acknowledged to be one of the engines driving the modern economy.").

 <sup>&</sup>lt;sup>2</sup> See Mark A. Lemley, Intellectual Property Rights and Standard-Setting Organizations, 90 CALIF. L. REV. 1889, 1892–93 (2002) (giving an overview of standard-setting).

<sup>&</sup>lt;sup>3</sup> *Id.* at 1904–06.

<sup>&</sup>lt;sup>4</sup> Richard Gilbert, Competition Policy for Industry Standards, in OXFORD HANDBOOK ON INTERNATIONAL ANTITRUST ECONOMICS (forthcoming) (manuscript at 5), http://works.bepress. com/cgi/viewcontent.cgi?article=1040&context=richard\_gilbert; Peter Grindley et al., Standards Wars: The Use of Standard Setting as a Means of Facilitating Cartels: Third Generation Wireless Telecommunications Standard Setting, 3 INT'L J. COMM. L. & POL'Y, at 32 (1999), available at

FRAND is an issue that has received an extraordinary amount of attention worldwide, including from antitrust authorities.<sup>6</sup> One reason for this is that the interpretation and application of FRAND is uncertain, like many other contracts and statutes that rely on concepts of reasonableness without further definition.<sup>7</sup> Different proposals for defining or implementing FRAND abound, including some that are divorced from the facts and circumstances of a particular transaction. These include the incremental value of the next-best alternative standard,<sup>8</sup> an *ex ante* rate,<sup>9</sup> *ex post* market based terms,<sup>10</sup> and final-offer arbitration,<sup>11</sup> among others.<sup>12</sup>

- <sup>11</sup> Mark A. Lemley & Carl Shapiro, A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents, 28 BERKELEY TECH. L.J. 1135, 1141 (2013).
- <sup>12</sup> See, e.g., Philippe Chappatte, FRAND Commitments—The Case for Antitrust Intervention, 5 EUR. COMPETITION J. 319, 320 (2009) ("This article sets out the case for intervention under the competition rules and explores the numerous benchmarks that can be used for these purposes, including *ex ante* competitive rates, industry experience and expectations including the use of comparators and the contribution made to the standard."); Damien Geradin & Miguel Rato, FRAND Commitment and EC Competition Law: A Reply to Philippe Chappatte, 6 EUR. COMPETITION J. 129 (2010) (arguing that the risks of hold-up and royalty stacking have been exaggerated and no antitrust intervention is appropriate to enforce FRAND commitments).

http://ijclp.net/old\_website/3\_1999/pdf/ijclp\_webdoc\_2\_3\_1999.pdf. Note that standard-setting by competing firms is not itself an antitrust violation. *See, e.g.*, Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 309 (3d Cir. 2007) ("[P]rivate standard setting—which might otherwise be viewed as a naked agreement among competitors not to manufacture, distribute, or purchase certain types of products—need not, in fact, violate antitrust law.").

<sup>&</sup>lt;sup>5</sup> Colleen V. Chien & Mark A. Lemley, Patent Holdup, the ITC, and the Public Interest, 98 CORNELL L. REV. 1, 2 (2012); Thomas F. Cotter, Patent Holdup, Patent Remedies, and Antitrust Responses, 34 J. CORP. L. 1151, 1188 (2009); Lemley, supra note 2, at 1901–03.

<sup>&</sup>lt;sup>6</sup> Roger D. Blair & Thomas Knight, Problems in Sharing the Surplus, 22 TEX. INTELL. PROP. L.J. (forthcoming 2014); Thomas F. Cotter, The Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties, 22 TEX. INTELL. PROP. L.J. (forthcoming 2014); Rebecca Haw, Casting a FRAND Shadow: The Importance of Legally Defining "Fair and Reasonable" and How Microsoft v. Motorola Missed the Mark, 22 TEX. INTELL. PROP. L.J. (forthcoming 2014); Keith N. Hylton, A Unified Framework for Competition Policy and Innovation Policy, 22 TEX. INTELL. PROP. L.J. (forthcoming 2014); William H. Page, Judging Monopolistic Pricing: F/RAND and Antitrust Injury, 22 TEX. INTELL. PROP. L.J. (forthcoming 2014); Christopher S. Yoo, Standard Setting, FRAND, and Opportunism, 22 TEX. INTELL. PROP. L.J. (forthcoming 2014).

<sup>&</sup>lt;sup>7</sup> Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 57 (2005) ("It is widely acknowledged that, in fact, there are no generally agreed tests to determine whether a particular license does or does not satisfy a RAND commitment."); Damien Geradin, *The Meaning of "Fair and Reasonable" in the Context of Third-Party Determination of FRAND Terms*, GEO. MASON L. REV. (forthcoming), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2344454. There may be reasons that SSOs purposely keep FRAND language vague. *See* Doug Lichtman, *Understanding the RAND Commitment*, 47 HOUS. L. REV. 1023, 1027–29 (2010).

<sup>&</sup>lt;sup>8</sup> FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 194 (2011) ("Courts should apply the hypothetical negotiation framework to determine reasonable royalty damages for a patent subject to a RAND commitment. Courts should cap the royalty at the incremental value of the patented technology over alternatives available at the time the standard was defined.").

<sup>&</sup>lt;sup>9</sup> Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 637 (2007); Swanson & Baumol, *supra* note 7, at 21.

<sup>&</sup>lt;sup>10</sup> Roger G. Brooks & Damien Geradin, Interpreting and Enforcing the Voluntary FRAND Commitment, 9 INT'L. J. IT STANDARDS & STANDARDIZATION RES. 1 (2011).

# FRAND in China

FRAND-related issues are challenging because there are only a few cases interpreting and applying FRAND, with the overwhelming majority of license agreements determined through bilateral negotiations without the need for any dispute resolution process.<sup>13</sup> Issues of institutional design also contribute to this challenge. Different institutional choices on issues such as injunctions, patent scope, and the determination of fair and reasonable royalties across multiple jurisdictions complicate the FRAND analyses.<sup>14</sup>

It is in this context of complexity in both the substantive law and the institutional design on FRAND<sup>15</sup> that a relatively new antitrust regime, the Anti-Monopoly Law (AML) of China,<sup>16</sup> has now emerged.<sup>17</sup> Because of the size of China's economy, developments on FRAND in China potentially have a global impact on FRAND rates and even on the business models of innovative firms.<sup>18</sup> The operation of market forces will result in globalization of the lowest rate set by a court or agency for a particular patent or patent portfolio in a major jurisdiction. China is such a jurisdiction. Consequently, if China is more influential regarding antitrust and FRAND, it will be because China will be inclined to set rates lower than other jurisdictions. In essence, what happens in China on FRAND will impact decisionmaking in the boardrooms of Silicon Valley.

<sup>&</sup>lt;sup>13</sup> SSOs have made it clear that they desire license terms to be established through voluntary bilateral negotiations, with litigation used only as a last resort in the event negotiations fail. This is an especially important point when considering a jurisdiction like China that historically has preferred government rate-setting to private ordering.

<sup>&</sup>lt;sup>14</sup> See, e.g., DANIEL A. CRANE, THE INSTITUTIONAL STRUCTURE OF ANTITRUST ENFORCEMENT (2011); Herbert J. Hovenkamp, Competition in Information Technologies: Standards-Essential Patents, Non-Practicing Entities and FRAND Bidding (Univ. of Iowa, Legal Studies Research Paper No. 12-32, 2012), available at http://ssrn.com/abstract=2154203; David A. Hyman & William E. Kovacic, Institutional Design, Agency Life Cycle, and the Goals of Competition Law, 81 FORDHAM L. REV. 2163 (2013); D. Daniel Sokol, Antitrust, Institutions, and Merger Control, 17 GEO. MASON L. REV. 1055 (2010).

<sup>&</sup>lt;sup>15</sup> See, e.g., HEBERT HOVENKAMP ET AL., IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW (2d ed. 2009 & Supp. 2012).

<sup>&</sup>lt;sup>16</sup> Zhonghua Renmin Gongheguo Fanlongduan Fa (中华人民共和国反垄断法) [The Anti-Monopoly Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 30, 2007, effective Aug. 1, 2008) 2007 Standing Comm. Nat'l People's Cong. Gaz. 517, available at http://www.gov.cn/flfg/2007-08/30/content\_732591.htm.

<sup>&</sup>lt;sup>17</sup> For an overview of the AML, see CHINA'S ANTI-MONOPOLY LAW: THE FIRST FIVE YEARS (Adrian Emch & David Stallibrass eds., 2013). See also Ping Lin & Jingjing Zhao, Merger Control Policy Under China's Anti-Monopoly Law, 41 REV. INDUS. ORG. 109 (2012) (discussing the AML's merger provisions and their enforcement); Pingping Shan et al., China's Anti-Monopoly Law: What is the Welfare Standard?, 41 REV. INDUS. ORG. 31 (2012) (examining the welfare standard that China's AML seeks to maximize); D. Daniel Sokol, Merger Control Under China's Anti-Monopoly Law, 46 N.Y.U. J.L. & BUS. (forthcoming 2014) (discussing the factors that drive merger outcomes under China's AML); Wentong Zheng, Transplanting Antitrust in China: Economic Transition, Market Structure, and State Control, 32 U. PA. J. INT'L L. 643 (2010) (examining the compatibility of Western antitrust models with conditions in China).

<sup>&</sup>lt;sup>18</sup> Ian King, *Qualcomm Says China Agency Started Anti-Monopoly Probe*, BLOOMBERG (Nov. 25, 2013, 4:33 PM), http://www.bloomberg.com/news/2013-11-25/qualcomm-says-china-agency-started-anti-monopoly-law-probe.html.

This article discusses FRAND antitrust issues in China. Part I provides an overview of China's antitrust regime and its interaction with intellectual property rights. In doing so, it offers an explanation of the nature of the Chinese antitrust regime that builds upon both industrial organization and political economy literature. Part II discusses standard-setting in China and how FRAND-related issues are handled under Chinese standard-setting laws and regulations. Part III explores recent developments in Chinese courts that impact FRAND. In particular, it discusses *Huawei v. InterDigital* and its implications for global FRAND licensing. Part IV offers thoughts on the lack of transparency in China's antitrust regime as well as the use of industry policy in the FRAND setting and how these issues may negatively impact consumer welfare.

## I. The AML in Broader Context

# A. Goals of the AML

The AML came into effect in August 2008.<sup>19</sup> As with many competition law regimes, the AML has a number of goals in its enacting legislation.<sup>20</sup> Some of these goals, such as the economics-based goals of total welfare<sup>21</sup> or consumer welfare<sup>22</sup> and the politics-based goal of promoting the healthy development of the socialist market economy<sup>23</sup> may be in tension with one another.<sup>24</sup> In modern antitrust jurisdictions, industrial policy concerns for competitors are an anathema to sound anti-trust policy.<sup>25</sup>

The potential tensions in the AML are further amplified by the newness of the AML in dealing with competition law and economics and the challenges of creating a competition law regime for a socialist market economy.<sup>26</sup> As a result of these po-

<sup>21</sup> The Anti-Monopoly Law of the People's Republic of China, art. 28.

<sup>&</sup>lt;sup>19</sup> The Anti-Monopoly Law of the People's Republic of China, art. 57.

<sup>&</sup>lt;sup>20</sup> See Roger D. Blair & D. Daniel Sokol, Welfare Standards in U.S. and E.U. Antitrust Enforcement, 81 FORDHAM L. REV. 2497, 2504–06 (2013) (providing a comparison of U.S. and E.U. antitrust goals); Herbert Hovenkamp, *Implementing Antitrust's Welfare Goals*, 81 FORDHAM L. REV. 2471, 2477–78 (2013) (discussing welfare goals in U.S. antitrust).

<sup>&</sup>lt;sup>22</sup> *Id.* art. 27.

<sup>&</sup>lt;sup>23</sup> *Id.* art. 1.

<sup>&</sup>lt;sup>24</sup> Adding to the Chinese complexity are three antitrust enforcement agencies with overlapping authority. See Huang Yong & Richean Zhiyan Li, An Overview of Chinese Competition Policy: Between Fragmentation and Consolidation, in CHINA'S ANTI-MONOPOLY LAW: THE FIRST FIVE YEARS, supra note 17, at 3, 6–7 (discussing the various enforcement agencies); Hao Qian, The Multiple Hands: Institutional Dynamics of China's Competition, in CHINA'S ANTI-MONOPOLY LAW: THE FIRST FIVE YEARS, supra note 17, at 15, 19 (explaining that agency powers are often not clearly defined, so agencies' enforcement efforts do not work smoothly together).

<sup>&</sup>lt;sup>25</sup> See generally Blair & Sokol, supra note 20, at 2504–05.

<sup>&</sup>lt;sup>26</sup> Yong Huang, Pursuing the Second Best: The History, Momentum, and Remaining Issues of China's Anti-Monopoly Law, 75 ANTITRUST L.J. 117, 121 (2008); Bruce M. Owen, Su Sun & Wentong Zheng, Antitrust in China: The Problem of Incentive Compatibility, 1 J. COMPETITION L. & ECON. 123, 132–33 (2005).

tential tensions, China has injected a significant amount of industrial policy into its competition law and policy,<sup>27</sup> at least relative to the United States and Europe.<sup>28</sup>

Further compounding the challenges facing the Chinese antitrust regime is the lack of procedural transparency in China's legal system, which operates under the constraints of the Chinese political system.<sup>29</sup> In the antitrust setting, the lack of procedural transparency and due process in China stands out as an outlier relative to international norms, particularly regarding mergers.<sup>30</sup> Sometimes the lack of transparency may mask limited capabilities on the part of agencies and courts in the economic analysis of antitrust issues. In other cases, the lack of transparency may mask industrial policy considerations that have little basis in antitrust economics (as might be the case in the Coca-Cola/Huiyuan merger<sup>31</sup>).<sup>32</sup> In this way, Chinese authorities are able to dress up their decisions to make them appear as if they are based on sound competition law principles when in fact the decisions with a veneer of legitimacy. In other words, under Chinese antitrust reverse engineering, a politically-based decision may attempt to use Western competition law principles to reach the decision that the Chinese authorities have already made.<sup>33</sup>

<sup>&</sup>lt;sup>27</sup> See Sokol, supra note 14, at 1074 (providing an example of the prominence of industrial policy as a central concern); Deng Fei & Gregory K. Leonard, *The Role of China's Unique Economic Characteristics in Antitrust Enforcement, in* CHINA'S ANTI-MONOPOLY LAW: THE FIRST FIVE YEARS, *supra* note 17, at 59, 59 (stating that China attempts to fulfill many potentially conflicting social goals through the AML).

<sup>&</sup>lt;sup>28</sup> Blair & Sokol, *supra* note 20, at 2506, 2510.

<sup>&</sup>lt;sup>29</sup> See STANLEY LUBMAN, BIRD IN A CAGE: LEGAL REFORM IN CHINA AFTER MAO 2 (1999) (analogizing China's legal system to a bird in a cage). The drafters of the AML were very transparent from 2004 onward, and the enforcement agencies have been transparent on occasions with some of their implementing rules.

<sup>&</sup>lt;sup>30</sup> See COMPETITION COMM., ORG. FOR ECON. CO-OPERATION & DEV., PROCEDURAL FAIRNESS AND TRANSPARENCY 6 (2012) (discussing an agreement between thirty-four countries, not including China, to taken action to promote transparency and procedural fairness in the area of merger law). Some argue that the differences between European and Chinese antitrust are merely of degree rather than of kind. Sokol, *supra* note 14, at 1141.

<sup>&</sup>lt;sup>31</sup> See Yee Wah Chin, The High-Wire Balancing Act of Merger Control Under China's Anti-Monopoly Law 13 (Aug. 26, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2120280 (questioning the economic basis of MOFCOM's decision in Coca-Cola/Huiyuan).

<sup>&</sup>lt;sup>32</sup> Because of international norms that promote a competition policy based on developments in industrial organization economics, any policies that veer from sound competition economics face considerable international scrutiny.

<sup>&</sup>lt;sup>33</sup> For example, in 2012 the State Administration of Industry and Commerce of the People's Republic of China issued a draft IP enforcement guide on behalf of the three antimonopoly enforcement agencies. It pays lip service to the general ability to refuse to deal or license intellectual property using wording and reasoning similar to the 1995 Department of Justice and Federal Trade Commission's Antitrust Guidelines for the Licensing of Intellectual Property, but then imposes a very broad essential facilities provision applicable to dominant companies. Guanyu Zhishi Chanquan Lingyu Fanlongduan Zhifa de Zhinan (关于知识产权领域反垄断执法的指南) [Guide on Anti-Monopoly Law Enforcement in the Field of Intellectual Property Rights] (proposed by St. Admin. for Indus. & Com.) art. 16–17 (China) [hereinafter SAIC Draft IP Enforcement Guide]; U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL

Due to the competing goals of the AML and the lack of transparency, industrial policy often comes into play at the expense of rigorous antitrust analysis in Chinese antitrust decisions.<sup>34</sup> This may have occurred in the FRAND context in both mergers and conduct cases.<sup>35</sup> One example in the merger context is the Google/ Motorola Mobility merger. In that case, the Ministry of Commerce (MOFCOM), the Chinese agency responsible for merger review, conditionally approved the merger based on a remedy of free licensing of Android for a period of five years to protect downstream Chinese Android platform users and to honor Motorola's existing FRAND commitments.<sup>36</sup> Of note is that even though Google had been under intense scrutiny before U.S. and European antitrust authorities, only in China was there a conditional remedy imposed for approval of the transaction, whereas U.S. and European antitrust enforcers focused on the transfer of patents and the lack of a change in the status quo.<sup>37</sup> In the conduct context, the possibility of industrial policy driving Chinese antitrust policy has emerged in *Huawei v. InterDigital*, which will be discussed in Part IV.

B. Intellectual Property Rights and the AML

This section presents a brief overview of the interaction between intellectual property rights (IPRs), the AML, and its implementing regulations to better understand the context of the Chinese antitrust FRAND policy. As discussed below, there is a significant amount of uncertainty under the AML and its implementing regulations as to the treatment of IPRs and FRAND-related issues. This uncertainty creates risks for both public and private antitrust actions.

The AML, like many antitrust laws, covers agreements, abuse of dominance, and mergers.<sup>38</sup> Article 55 of the AML, a provision in the Supplementary Provisions

PROPERTY (1995). This broad essential facilities provision goes far beyond what is required under U.S. and E.U. law, but is consistent with China's desire back in 2004 and 2005 when it was drafting the AML.

<sup>&</sup>lt;sup>34</sup> Deng Fei & Leonard, *supra* note 27, at 67–70.

<sup>&</sup>lt;sup>35</sup> *Id.* at 68.

<sup>&</sup>lt;sup>36</sup> Id. at 67, 70; MINISTRY OF COMMERCE, ANNOUNCEMENT NO. 25, ANNOUNCEMENT OF APPROVAL WITH ADDITIONAL RESTRICTIVE CONDITIONS OF THE ACQUISITION OF MOTOROLA MOBILITY BY GOOGLE (2012), available at http://english.mofcom.gov.cn/article/policyrelease/domesticpolicy/ 201206/20120608199125.shtml Though MOFCOM did mention the term "FRAND," it did not elaborate what in its view FRAND is, and that will likely become an issue when MOFCOM reviews compliance with its decision. MINISTRY OF COMMERCE, *supra*.

<sup>&</sup>lt;sup>37</sup> Press Release, U.S. Dep't of Justice, Statement of the Department of Justice's Antitrust Division on Its Decision to Close Its Investigations of Google Inc.'s Acquisition of Motorola Mobility Holdings Inc. and the Acquisitions of Certain Patents by Apple Inc., Microsoft Corp. and Research in Motion Ltd. (Feb. 13, 2012), *available at* http://www.justice.gov/opa/pr/2012/February/12-at-210.html; Press Release, Eur. Comm'n, Mergers: Commission Approves Acquisition of Motorola Mobility by Google (Feb. 13, 2012), *available at* http://europa.eu/rapid/press-release\_IP-12-129\_en.htm.

<sup>&</sup>lt;sup>38</sup> GLOBAL ANTITRUST AND COMPLIANCE HANDBOOK (D. Daniel Sokol et al. eds., forthcoming 2014) (manuscript at ch. 10) (on file with authors) (giving an overview of the coverage of specific types of antitrust behavior covered under the AML).

section of the law, addresses intellectual property.<sup>39</sup> It states that the AML does not apply to business operators' use of their IPRs unless they are using them to restrict competition in the market.<sup>40</sup> To date, it remains unclear under Chinese antitrust jurisprudence how Article 55 may be applied to distinguish between legitimate uses of intellectual property and abuses of intellectual property. However, a draft enforcement guide on IP-related antitrust issues released by a task force led by the State Administration of Industry and Commerce (SAIC) in 2012 states that abuses of IPRs are not a special category of prohibited conduct under the AML; rather, they fall under the AML's general prohibitions of monopolistic agreements, abuse of dominance, and anticompetitive mergers.<sup>41</sup>

In addition to the SAIC Draft IP Enforcement Guide, which was issued on behalf of all three antimonopoly enforcement agencies and supposedly represents the views of all three agencies, SAIC also released a Draft IP Enforcement Regulation in 2013 that would be binding in SAIC proceedings only.<sup>42</sup> The SAIC Draft IP Enforcement Regulation addresses the same issues and contains more or less the same provisions (with slight differences in language) as the Draft IP Enforcement Guide. Article 7 of the Draft IP Enforcement Regulation, for example, covers refusals to license.<sup>43</sup> It states that there is a violation of the AML when an undertaking refuses to license under reasonable terms those of its IPRs that constitute an essential facili-ty.<sup>44</sup>

Under the 2012 Draft IP Enforcement Guide, the exercise of IPRs is subject to the prohibition of horizontal agreements under Article 13 of the AML<sup>45</sup> and the prohibition of vertical agreements under Article 14 of the AML.<sup>46</sup> Article 13 of the SAIC Draft IP Enforcement Guide states that undertakings that are in a competitive relationship with one another are prohibited under Article 13 of the AML from reaching agreements to (1) fix or change IPR licensing fees or the prices of products containing IPRs, (2) restrict the number of IPR licenses or restrict the quantity of the production or sales of products containing IPRs, (3) divide the market for IPR licensing or divide the sales market or input-procurement market for products containing IPRs, (4) restrict the purchase or development of new technologies or re-

 $^{43}$  *Id.* art. 7.

<sup>&</sup>lt;sup>39</sup> Zhonghua Renmin Gongheguo Fanlongduan Fa (中华人民共和国反垄断法) [The Anti-Monopoly Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 30, 2007, effective Aug. 1, 2008), 2007 Standing Comm. Nat'l People's Cong. Gaz. 517, art. 55, available at http://www.gov.cn/flfg/2007-08/30/content\_732591.htm.

<sup>&</sup>lt;sup>40</sup> *Id*.

<sup>&</sup>lt;sup>41</sup> See SAIC Draft IP Enforcement Guide, *supra* note 33, art. 4.

<sup>&</sup>lt;sup>42</sup> For the latest version of the draft regulation, see Gongshang Xingzheng Guanli Jiguan Jinzhi Lanyong Zhishi Chanquan Paichu, Xianzhi Jingzheng Xingwei de Guiding – Zhengqiu Yijian Gao (工 商行政管理机关禁止滥用知识产权排除、限制竞争行为的规定 - 征求意见稿) [Rules on the Prohibition of Abuses of Intellectual Property Rights for Purposes of Eliminating or Restricting Competition – Draft for Comments] (drafted by St. Admin. for Indus. & Com., Sept. 18, 2013) (China) (on file with authors).

<sup>&</sup>lt;sup>44</sup> *Id.* 

<sup>&</sup>lt;sup>45</sup> The Anti-Monopoly Law of the People's Republic of China, art. 13.

<sup>&</sup>lt;sup>46</sup> *Id.* art. 14.

strict the purchase or development of new equipment or new products containing IPRs, (5) jointly refuse to license IPRs to a specific transaction counterparty or jointly refuse to sell products containing IPRs to a specific transaction counterparty, or (6) engage in other conduct that constitutes abuses of IPRs as determined by the antimonopoly enforcement agencies.<sup>47</sup> Article 14 of the SAIC Draft IP Enforcement Guide states that undertakings are prohibited under Article 14 of the AML from reaching agreements with transaction counterparties to (1) fix the resale prices of products containing IPRs, (2) restrict the minimum resale prices of products containing IPRs, or (3) engage in other conduct that constitutes abuses of IPRs as determined by the antimonopoly enforcement agencies.<sup>48</sup> However, pursuant to Article 15 of the AML, anticompetitive agreements may be exempted from Articles 13 and 14 of the AML if they are reached in order to unify product specifications.<sup>49</sup>

In the area of abuse of dominance, Article 16 of the SAIC Draft IP Enforcement Guide provides that an undertaking possessing a dominant market position may violate Article 17 of the AML if it abuses its IPRs by (1) licensing its IPRs at unfairly high prices, (2) refusing to license its IPRs without justification, (3) restricting transaction counterparties to obtain IPRs only from it or other undertakings designated by it, (4) tying the sales of products containing IPRs or imposing other unjustified conditions involving IPRs, (5) discriminating against similarly-situated transaction counterparties on terms of licensing such as licensing fees, or (6) engaging in other IPR-related conduct that constitutes abuse of dominance as determined by the antimonopoly enforcement agencies.<sup>50</sup> Furthermore, Article 17 of the SAIC Draft IP Enforcement Guide offers additional guidance on refusals to license IPRs.<sup>51</sup> It provides that refusals to license are one way of exercising IPRs and the antimonopoly enforcement agencies will not, as a general matter, require IPR-holders to shoulder the obligation of dealing with competitors.<sup>52</sup> However, the Guide then provides for a host of exceptions that threaten to swallow this general rule—IPRholders possessing a dominant market position may violate the abuse of dominance provisions of the AML if their refusals to license IPRs are on non-equal, discriminatory terms, or if the IPRs in question are an essential facility and refusal to license such IPRs results in the inability of the person seeking the license to effectively compete in the relevant market.53

What exactly all of these provisions mean in practice is not yet clear. What would be considered an unfairly high price, for example, is highly uncertain under Chinese law given that Chinese law does not offer clear guidance on what is an ac-

<sup>&</sup>lt;sup>47</sup> SAIC Draft IP Enforcement Guide, *supra* note 33, art. 13.

<sup>&</sup>lt;sup>48</sup> *Id.* art. 14.

<sup>&</sup>lt;sup>49</sup> The Anti-Monopoly Law of the People's Republic of China, art. 15.

<sup>&</sup>lt;sup>50</sup> SAIC Draft IP Enforcement Guide, *supra* note 33, art. 16.

<sup>&</sup>lt;sup>51</sup> *Id.* art. 17.

<sup>&</sup>lt;sup>52</sup> *Id.* 

<sup>&</sup>lt;sup>53</sup> *Id.* 

ceptable fee.<sup>54</sup> In a comparative context, charging high prices does not violate United States antitrust law<sup>55</sup> and is rarely challenged in Europe.<sup>56</sup> However, in the Chinese context, such a provision might be used to extract or impose better terms for a FRAND licensee.<sup>57</sup> These legal ambiguities create significant uncertainty for FRAND licensing in China.

# **II. Standard-Setting in China**

### A. Overview of Standard-Setting in China

The conventional paradigm of standards being set by voluntary SSOs comprised of private parties does not hold in China. Instead, the state sets the most important standards in China. The Standardization Law of the People's Republic of China, promulgated by the National People's Congress Standing Committee in 1988, specifies four tiers of standards in descending order of legal authority: national standards (国家标准, Guojia Biaozhun), sector standards (行业标准, Hangye Biaozhun), local standards (地方标准, Difang Biaozhun), and enterprise standards ( 金业标准, Qiye Biaozhun).<sup>58</sup> National standards apply nationwide and are made by a state-run standard-setting agency within the State Council (China's cabinet).<sup>59</sup> Sector standards apply only in specific sectors and are made by the standard-setting agencies of the respective government ministries overseeing each sector.<sup>60</sup> Local standards are made by the standard-setting agencies of local governments and apply only within the jurisdiction of the local governments.<sup>61</sup> Enterprise standards are

<sup>&</sup>lt;sup>54</sup> Sébastien Evrard & Zhang Yizhe, *Refusal to Deal in China: A Missed Opportunity?*, in CHINA'S ANTI-MONOPOLY LAW: THE FIRST FIVE YEARS, *supra* note 17, at 135, 139.

<sup>&</sup>lt;sup>55</sup> GLOBAL ANTITRUST AND COMPLIANCE HANDBOOK, *supra* note 38 (manuscript at ch. 43); Submission from U.S. Fed. Trade Comm'n & Antitrust Div., U.S. Dep't of Justice to Competition Comm., Org. for Econ. Co-operation and Dev. (Oct. 17, 2011), *available at* http://www.justice.gov/atr/public/international/278823.pdf.

<sup>&</sup>lt;sup>56</sup> GLOBAL ANTITRUST AND COMPLIANCE HANDBOOK, *supra* note 38 (manuscript at ch. 12).

<sup>&</sup>lt;sup>57</sup> There seems to be a fixation by Chinese authorities in their antitrust-IP regulations and academics with viewing IPRs as an essential facility and with at times conflating essential facilities and refusals to deal. For an English language work by a prominent antitrust-IP scholar in China, see Wang Xianlin, *The Application of the Anti-Monopoly Law in the Context of Intellectual Property Rights, in* CHINA'S ANTI-MONOPOLY LAW: THE FIRST FIVE YEARS, *supra* note 17, at 447. In the United States, the essential facilities doctrine has never been applied to IPRs, and it is more or less dormant doctrinally for all other applications under *Trinko*. *See* Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 410–11 (2004) (holding that Verizon's allegedly insufficient assistance in the provision of service to rivals is not a recognized antitrust claim, even considering the essential facilities doctrine). Refusals to deal are limited under *Aspen Skiing*. Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 586 (1985). *Trinko* suggests that *Aspen Skiing* is somewhat of an outlier. *Trinko*, 540 U.S. at 399 ("*Aspen* is at or near the outer boundary of § 2 liability.").

<sup>&</sup>lt;sup>58</sup> Zhonghua Renmin Gongheguo Biaozhunhua Fa (中华人民共和国标准化法) [The Standardization Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 29, 1988, effective Apr. 1, 1989), art. 6, http://www.ciac.sh.cn/newsdata/news14876.htm.

<sup>&</sup>lt;sup>59</sup> Id.

<sup>&</sup>lt;sup>60</sup> Id.

<sup>&</sup>lt;sup>61</sup> *Id.* 

made by enterprises themselves and only govern the products of specific enterprises.<sup>62</sup> Certain national and sector standards, such as those concerning human health and safety and those required by law to have binding legal force, are mandatory.<sup>63</sup> Local standards concerning product safety and sanitary conditions are also mandatory within the jurisdiction of the local governments who set the standards.<sup>64</sup>

The most important standard-setting activities in China take place at the national and sector levels. At the national level, the key government agency charged with standard-setting is the Standardization Administration of China (SAC) under the General Administration of Quality Supervision, Inspection, & Quarantine (AQSIQ) of the State Council.<sup>65</sup> All national standards have to be registered and approved by the SAC.<sup>66</sup> The SAC is supported by two other governmental organizations: the China National Institute of Standardization (CNIS), a research institute charged with standardization-related research and drafting,<sup>67</sup> and the China Association for Standardization, a trade association engaged in standardization promotion and training.<sup>68</sup> In conjunction with sector ministries, the SAC oversees about 450 national technical committees and 600 subcommittees composed of approximately 40,000 experts from industry, academia, and government.<sup>69</sup>

At the sector level, a standardization department within each government ministry is responsible for making sector standards for the respective sector.<sup>70</sup> For sectors that are not overseen by a government ministry, standard-setting is handled by the Ministry of Industry and Information Technology (MIIT).<sup>71</sup> The sector ministries also run various standardization research institutes whose responsibilities are to support sector standard-setting agencies through research and drafting.<sup>72</sup>

It is clear from this institutional design for standard-setting that the Chinese government wants to ensure that standard-setting decisions ultimately rest with the state. Although private interests could certainly influence the standard-setting processes in China through their representation on the various technical committees or sub-committees, their inputs would not be incorporated into a final standard unless

<sup>&</sup>lt;sup>62</sup> Id.

<sup>&</sup>lt;sup>63</sup> *Id.* art. 7.

<sup>&</sup>lt;sup>64</sup> The Standardization Law of the People's Republic of China, art. 7.

<sup>&</sup>lt;sup>65</sup> See Brief Introduction of SAC, STANDARDIZATION ADMIN. OF THE PEOPLE'S REPUBLIC OF CHINA (Nov. 23, 2010), http://www.sac.gov.cn/sac\_en/introductionofSAC/201011/t20101123\_4166.htm (introducing the main responsibilities of SAC).

<sup>&</sup>lt;sup>66</sup> The Standardization Law of the People's Republic of China, art. 6 (requiring all national standards be formulated by the department of standardization).

<sup>&</sup>lt;sup>67</sup> See About CNIS, CHINA NAT'L INST. OF STANDARDIZATION, http://en.cnis.gov.cn/bzygk/kyly (explaining that one of the roles of CNIS is to run the administrative functions of the SAC) (last visited Feb. 28, 2014).

<sup>&</sup>lt;sup>68</sup> CHINA ASS'N FOR STANDARDIZATION, http://www.china-cas.org (last visited Feb. 28, 2014).

<sup>&</sup>lt;sup>69</sup> Wang Ping, *On Standardization in China*, TALKSTANDARDS (Aug. 16, 2010), http://www.talkstandards.com/on-standardization-in-china.

<sup>&</sup>lt;sup>70</sup> Id.

<sup>&</sup>lt;sup>71</sup> *Id*.

<sup>&</sup>lt;sup>72</sup> *Id.* 

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they are adopted by the government standard-setting agencies. This institutional design creates additional opportunities for China to take into account industrial policy considerations in its standard-setting processes.

# B. Intellectual Property Rights and Standard-Setting in China

Intellectual property has long been an integral component of China's development policy. China's National Science and Technology Plan, set out in China's Eleventh Five-Year Plan (2006–2010)<sup>73</sup> and the accompanying National Mediumand Long-Term Science and Technology Development Plan (2006–2020),<sup>74</sup> sets a goal of building an "innovation nation" by 2020.<sup>75</sup> To implement the National Science and Technology Plan, the State Council issued the National Intellectual Property Strategy in 2008<sup>76</sup> and the State Intellectual Property Office issued China's Patent Strategy in 2010.<sup>77</sup> These documents all call for China to reduce its dependence on foreign technologies and to increase the production of indigenous technologies.<sup>78</sup>

China's preoccupation with indigenous innovation stems from the stark reality that royalty fees paid by Chinese firms to foreign patent holders impose a high burden on China's manufacturing sector.<sup>79</sup> For example, royalty fees paid by Chinese DVD-player makers to Phillips and other foreign patent holders amounted to twenty percent of the sale prices of the DVD-players.<sup>80</sup> As another example, foreign pa

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<sup>&</sup>lt;sup>73</sup> Guomin Jingji he Shehui Fazhan Di Shiyi Ge Wu Nian Guihua Gangyao (国民经济和社会发展第 十一个五年规划纲要) [Outline of the Eleventh Five-Year Plan for National Economic and Social Development] (issued by Nat'l Dev. & Reform Comm'n of China [NDRC], Mar. 16, 2006), http://news.xinhuanet.com/misc/2006-03/16/content\_4309517.htm [hereinafter Eleventh Five-Year Plan].

<sup>&</sup>lt;sup>74</sup> Guojia Zhong Changqi Kexue he Jishu Fazhan Gangyao (2006–2020 Nian) (国家中长期科学和技术发展纲要[2006–2020年]) [Outline of the National Medium- and Long-Term Program for Science and Technology Development (2006–2020)] (issued by St. Council of China, Feb. 6, 2006), http://www.gov.cn/jrzg/2006-02/09/content\_183787.htm.

<sup>&</sup>lt;sup>75</sup> Eleventh Five-Year Plan, *supra* note 73, tit. VII. See generally William J. Murphy & John L. Orcutt, Using Valuation-Based Decision Making to Increase the Efficiency of China's Patent Subsidy Strategies, 2013 CARDOZO L. REV. DE NOVO 116, 120 (2013) (discussing science and technology fueling China's economic growth).

<sup>&</sup>lt;sup>76</sup> Outline of the National Intellectual Property Strategy, GOV.CN (June 21, 2008), http://english.gov.cn/2008-06/21/content\_1023471.htm.

<sup>&</sup>lt;sup>77</sup> Quanguo Zhuanli Shiye Fazhan Zhanlue (2011–2020 Nian) (全国专利事业发展战略 [2011–2020 年]) [National Patent Development Strategy (2011–2020)] (issued by St. Intell. Prop. Off., Nov. 18, 2010) (China), *translated at* http://graphics8.nytimes.com/packages/pdf/business/SIPONatPatentDevStrategy.pdf.

<sup>&</sup>lt;sup>78</sup> Murphy & Orcutt, *supra* note 73, at 120–21.

<sup>&</sup>lt;sup>79</sup> This is one of the key drivers; the other relates to security or control (lack of trust of foreign technologies, etc.).

<sup>&</sup>lt;sup>80</sup> Greg S. Slater, *Compulsory Licensing Trends in the Technology Sector: China as a Case Study on Licensing Patents, in COMPULSORY LICENSING AND OTHER IP CONTROLS* 135, 139 (Am. Bar Ass'n Section of Intellectual Prop. Law ed., 2009).

tents account for a significant portion of the TD-SCDMA technology developed as an indigenous alternative to foreign telecommunications technologies.<sup>81</sup>

Consistent with China's overall science and technology policy, encouraging indigenous innovation has become an overarching objective of standard-setting in China. The Eleventh Five-Year Plan requires that priority be given to indigenous technologies in the adoption of Chinese standards.<sup>82</sup> A draft report released by the SAC in 2004 warned of threats posed by foreign products to domestic products and vowed to increase the proportion of indigenous technologies in Chinese standards.<sup>83</sup> These broader political economy goals also have an impact on antitrust developments in China, as discussed in Part II above.

One issue that has proved particularly challenging for Chinese standard-setting agencies is the role of patents in standard-setting, which has been the subject of three draft regulations proposed by the SAC since 2004. The first draft regulation, released in 2004 for public comments,<sup>84</sup> took a rather hostile approach to patents in relation to national standards. Under this draft regulation, mandatory national standards should not include patented technologies, and voluntary national standards should include patented technologies only if such technologies are irreplaceable.<sup>85</sup> Under the draft, if a national standard does involve a patented technology, the holder of the patent is required to issue an irrevocable written declaration stating its willingness to license its patent either on a royalty-free basis or on a FRAND basis.<sup>86</sup> The draft specifies that a national standard will not be approved absent such declarations from patent holders.<sup>87</sup> The 2004 draft regulation did not specify what would constitute a FRAND rate. The 2004 draft regulation was not implemented because of lobbying efforts against it by multinational companies and U.S. government agencies.<sup>88</sup>

In 2009, the SAC issued a second draft regulation on patents in standardsetting.<sup>89</sup> Like the 2004 draft regulation, the 2009 draft regulation required patented

<sup>&</sup>lt;sup>81</sup> John Whalley, Weimin Zhou & Xiaopeng An, *Chinese Experience with Global 3G Standard Setting* 29 n.36 (CESifo, Working Paper No. 2537, 2009), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1340383.

<sup>&</sup>lt;sup>32</sup> Eleventh Five-Year Plan, *supra* note 73, tit. VII, § 4.

<sup>&</sup>lt;sup>83</sup> Slater, *supra* note 80.

<sup>&</sup>lt;sup>84</sup> Guojia Biaozhun Sheji Zhuanli de Guiding (Zanxing) (Zhengqiu Yijian Gao) (国家标准涉及专利的规定 [暂行] [征求意见稿]) [Provisions on Issues Related to Patents in National Standards (Interim) (Draft for Public Comments)] (Mar. 19, 2004), http://www.doc88.com/p-285364397736.html (China).

<sup>&</sup>lt;sup>85</sup> *Id.* art. 3.

<sup>&</sup>lt;sup>86</sup> *Id.* art. 11.

<sup>&</sup>lt;sup>87</sup> *Id.* art. 12.

<sup>&</sup>lt;sup>88</sup> Slater, *supra* note 80, at 140.

<sup>&</sup>lt;sup>89</sup> Sheji Zhuanli de Guojia Biaozhun Zhi Xiuding Guanli Guiding (Zanxing) (Zhengqiu Yijian Gao) ( 涉及专利的国家标准制修订管理规定 [暂行] [征求意见稿]) [Provisions on the Administration of Formulating and Revising National Standards Involving Patents (Interim) (Draft for Public Comments)] (Nov. 2, 2009), http://www.sac.gov.cn/upload/091104/0911040916193480.PDF (China).

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technologies to be essential if they were to be included in national standards.<sup>90</sup> If a national standard did involve a patented technology, the holder of the patent was required to make an irrevocable written declaration stating one of the following: (1) it agreed to license its patent on a FRAND royalty-free basis, (2) it agreed to license its patent on a FRAND royalty free being significantly lower than the normal amount, or (3) it did not agree to license its patent as provided under (1) or (2).<sup>91</sup> If the patent holder chose the third option in its written declaration, its patent would not be included in the standard.<sup>92</sup>

Under the 2009 draft regulation, patent holders who desired to have their patents included in a standard were forced to charge either no royalty fees or royalty fees that are significantly lower than normal. The 2009 draft regulation also contained special provisions on the inclusion of patented technologies in mandatory national standards. It stated that mandatory national standards shall "in principle" not include patented technologies,<sup>93</sup> leaving the door open to the inclusion of patented technologies in mandatory national standards under certain circumstances. When a mandatory national standard must include a patented technology, the 2009 draft regulation required the patent holder either to grant a royalty-free license or to negotiate with the SAC to reach a mutually acceptable solution.<sup>94</sup> If the patent holder and the SAC failed to reach a mutually acceptable solution, then the SAC would either not approve the national standard in question or impose a compulsory license.<sup>95</sup> The 2009 draft regulation was widely criticized as undervaluing intellectual property rights in standard-setting.<sup>96</sup>

As an indication of the importance—and difficulties—of the subject, the SAC issued a third draft regulation on patents in standards in December 2012.<sup>97</sup> The 2012 draft regulation took a softened stance—in language, if not in substance—on the inclusion of patented technologies in national standards. Like the 2004 and 2009 draft regulations, the 2012 draft regulation requires patented technologies to be indispensable for them to be included in national standards.<sup>98</sup> If a national standard ard does involve a patented technology, the patent holder is required to issue an ir-

<sup>&</sup>lt;sup>90</sup> Id. art. 3. "Essential" in the IP standards context means something different than what it means in the 2009 regulations.

<sup>&</sup>lt;sup>91</sup> Id. art. 9.

<sup>&</sup>lt;sup>92</sup> Id.

<sup>&</sup>lt;sup>93</sup> Id. art. 12.

<sup>&</sup>lt;sup>94</sup> Id. art. 13.

<sup>&</sup>lt;sup>95</sup> Provisions on the Administration of Formulating and Revising National Standards Involving Patents (Interim) (Draft for Public Comments), art. 13.

<sup>&</sup>lt;sup>96</sup> George T. Willingmyre, Inside Views: Take Two—China's Proposed Regulations for Patent-Involving National Standards, INTELL. PROP. WATCH (Dec. 21, 2009, 4:00 PM), http://www.ipwatch.org/2009/12/21/take-two-china%E2%80%99s-proposed-regulations-for-patent-involvingnational-standards.

<sup>&</sup>lt;sup>97</sup> See Guojia Biaozhun Sheji Zhuanli de Guanli Guiding (Zanxing) (Zhengqiu Yijian Gao) (国家标准涉及专利的管理规定 [暂行] [征求意见稿]) [Provisions on the Administration of National Standards Involving Patents (Interim) (Draft for Public Comments)] (Dec. 19, 2012), http://www.doc88.com/p-3894787737080.html (China).

<sup>&</sup>lt;sup>98</sup> *Id.* art. I.4.

revocable written declaration stating one of the following: (1) it agrees to license its patent on a royalty-free basis, (2) it agrees to license its patent on a FRAND basis. or (3) it does not agree to license its patent as provided under (1) or (2).<sup>99</sup> If the patent holder chooses the third option in its written declaration, its patent will not be included in the standard.<sup>100</sup> Compared to the 2009 draft regulation, the 2012 draft regulation deleted the "significantly lower than normal" language from the second option, although the SAC could, in theory at least, still interpret FRAND to mean "significantly lower than normal." As for patents in mandatory national standards, the 2012 draft regulation preserved the requirement that mandatory national standards shall "in principle" not include patented technologies.<sup>101</sup> But when a mandatory national standard must include a patented technology, the patent holder is only required to negotiate with the SAC to reach a mutually acceptable solution as to the disposition of the patent.<sup>102</sup> Granting a royalty-free license is no longer explicitly listed as a possible course of action as it was under the 2009 draft regulation, although the patent holder is obviously still able to do so. If the patent holder and the SAC cannot reach a mutually acceptable solution, the SAC is required not to approve the national standard in question.<sup>103</sup> But under the 2012 draft regulation, the SAC no longer has the authority to impose a compulsory license as under the 2009 draft regulation.104

While it is not entirely clear what has motivated the shifts in language in the 2012 draft regulation, it does show increased flexibility on the part of the SAC. This flexibility may only be a gesture to Western critics or may involve a more fundamental shift in the thinking of the SAC. As more and more indigenous technologies are being patented and replacing foreign technologies in Chinese standards,<sup>105</sup> the SAC at some point will have to think strategically about the negative consequences of a standard-setting regime that is overly hostile to patents. It remains to be seen however whether the SAC believes it has already reached that point. Put differently, China used to behave defensively about its IPRs. Increasingly, China has reason to behave offensively about IPRs and might want to push for stronger IPR enforcement.<sup>106</sup>

<sup>104</sup> *Id*.

<sup>&</sup>lt;sup>99</sup> *Id.* art. III.1.

<sup>&</sup>lt;sup>100</sup> *Id.* art. III.2.

<sup>&</sup>lt;sup>101</sup> *Id.* art. IV.1.

<sup>&</sup>lt;sup>102</sup> *Id.* art. IV.2.

<sup>&</sup>lt;sup>103</sup> Provisions on the Administration of National Standards Involving Patents (Interim) (Draft for Public Comments), art. IV.2.

<sup>&</sup>lt;sup>105</sup> James McGregor, China's Drive for 'Indigenous Innovation' A Web of Industrial Policies, U.S. CHAMBER OF COM., https://www.uschamber.com/sites/default/files/legacy/reports/ 100728chinareport0.pdf (last visited Mar. 14, 2014).

<sup>&</sup>lt;sup>106</sup> This point is evident from China's proposed fourth amendment to its patent law, in which China has increased the enforcement power of administrative agencies and the penalties for certain types of patent infringement. Aaron Wininger, *China's Proposed Amendment to the Patent Law: A Significant Increase to the Value of Patent Rights in China?*, PERKINS COIE (Sept. 4, 2012), http://www.perkinscoie.com/chinas-proposed-amendment-to-the-patent-law-a-significant-increaseto-the-value-of-patent-rights-in-china-09-04-2012.

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In addition to the proposed SAC regulations, the SAIC Draft IP Enforcement Guide released in August 2012 also contains several specific provisions on IPRs in standard-setting. Article 22 of the SAIC Draft IP Enforcement Guide states that unilaterally setting the terms and conditions of patent licenses during the standardsetting process is a legitimate way of exercising patent holders' IPRs and generally does not have the effect of excluding or impeding competition.<sup>107</sup> Article 22 also provides that patent holders may violate the AML if they (1) know or should have known that their patents may be included in a standard, (2) do not disclose their patent information as required by the rules of the standard-setting agency, (3) claim patent rights after they have been included in a standard, and (4) such claims have potentially adverse effects on competition and innovation in the relevant market.<sup>108</sup> Article 22 further provides that when a patented technology is included in a mandatory national standard, a ceiling should be set for the royalty fees, and the ceiling should not be significantly higher than the royalty fees prevailing prior to the inclusion of the patent in the standard.<sup>109</sup> Article 22 therefore sets an upper limit on what will be considered acceptable royalty fees for patents included in standards. Although not specifically using the term FRAND, Article 22 provides some insights into how China's antimonopoly regulators might approach FRAND licensing in standard-setting. Unfortunately, Article 22 provides guidance only in very narrow circumstances. It only concerns situations where directly comparable licensing transactions exist—situations where it is arguably straightforward to determine FRAND rates.

# **III. FRAND in Chinese Courts**

#### A. Supreme People's Court on FRAND

Chinese courts are occasionally called on to resolve disputes involving the licensing of IPRs. In July 2008, the Supreme People's Court (SPC) issued a judicial reply<sup>110</sup> in response to inquiries from Liaoning High People's Court about how to deal with a patent infringement case involving a sector standard issued by the Ministry of Construction.<sup>111</sup> The SPC stated that it was addressing such cases because the government authorities responsible for standard-setting in China had not established rules on the public disclosure and use of patented technologies in stand-

<sup>&</sup>lt;sup>107</sup> SAIC Draft IP Enforcement Guide, *supra* note 33, art. 22.

<sup>&</sup>lt;sup>108</sup> Id.

<sup>&</sup>lt;sup>109</sup> Id.

<sup>&</sup>lt;sup>110</sup> A judicial reply is a reply issued by a higher court in response to inquiries from a lower court regarding the handling of specific legal issues. A judicial reply is generally binding on lower courts. This case was based on an IP claim rather than an antitrust claim.

<sup>&</sup>lt;sup>111</sup> Zuigao Renmin Fayuan Guanyu Chaoyang Xingnuo Gongsi Anzhao Jianshebu Banfa de Hangye Biaozhun "Fuhe Zaiti Hang Kuo Zhuang Sheji Guicheng" Sheji Shigong er Shishi Biaozhun Zhong Zhuanli de Xingwei Shifou Goucheng Qinfan Zhuanliquan Wenti de Han (最高人民法院 关于朝阳兴诺公司按照建设部颁发的行业标准《复合载体夯扩桩设计规程》设计、施工而 实施标准中专利的行为是否构成侵犯专利权问题的函) [Supreme People's Court's Letter of Reply on Whether Chaoyang Xingnuo Co. Infringed on a Patent Included in a Ministry of Construction Standard When it Implemented the Patent as Required by the Standard] (Sup. People's Ct. Jul. 8, 2008) (China) (on file with authors).

ards.<sup>112</sup> The SPC then set out the general principles to be followed by Chinese courts in handling such cases. According to the SPC, if a patent holder has participated in the making of a national, sector, or local standard or has consented to including its patents in a national, sector, or local standard, the patent holder will be deemed to have consented to allow others to use the patents for purposes of implementing the standard, and those uses will not constitute patent infringement.<sup>113</sup> The patent holder may ask users to pay a royalty fee, but the amount of the fee should be significantly lower than the normal amount.<sup>114</sup>

The SPC's 2008 judicial reply has been followed by Chinese courts. In March 2011, for example, the Hebei High People's Court decided a patent infringement case involving a local standard.<sup>115</sup> The plaintiff in the case owned a patent in a construction method that was included in a construction standard adopted by the Bureau of Construction of Hebei Province.<sup>116</sup> The defendant used the plaintiff's patent without obtaining the plaintiff's consent and without paying the plaintiff a royalty fee.<sup>117</sup> The lower court held that the defendant infringed on the plaintiff's patent and ordered the defendant to compensate the plaintiff in the amount of RMB 800,000.<sup>118</sup> On appeal, the Hebei High People's Court reversed the lower court on the issue of patent infringement.<sup>119</sup> Citing the SPC's 2008 judicial reply, the Hebei High People's Court held that since the plaintiff participated in the making of the construction standard in question, he should be deemed to have consented to the use of his patent by others in return for a royalty fee significantly lower than the normal amount.<sup>120</sup> The Hebei High People's Court reduced the amount of compensation due to the plaintiff from RMB 800,000 to RMB 100,000.<sup>121</sup>

Apparently, the SPC's approach to FRAND licensing is consistent with the approach taken by the SAC in its 2009 draft regulation on patents in standards. Given that the SAC's 2012 draft regulation has eliminated the "significantly lower than normal" phrase, it is not entirely clear whether the SPC would still take the same approach if it were asked to address this issue anew today.

<sup>&</sup>lt;sup>112</sup> *Id.* 

<sup>&</sup>lt;sup>113</sup> Id.

<sup>&</sup>lt;sup>114</sup> Id.

<sup>&</sup>lt;sup>115</sup> Hengshui Ziyahe Jianzhu Gongcheng Youxian Gongsi yu Zhang Jingting Deng Qinfan Faming Zhuanli Quan Jiufen Shangsu An Minshi Panjue Shu (衡水子牙河建筑工程有限公司与张晶廷等 侵犯发明专利权纠纷上诉案民事判决书) [Civil Judgment on Appeal of Dispute Between Hengshui Ziyahe Construction Ltd. Co. and Zhang Jingting et al. Regarding Invention Patent Infringement] (Hebei High People's Ct. Mar. 21, 2011) (China) (on file with authors) [hereinafter Civil Judgment].

<sup>&</sup>lt;sup>116</sup> *Id.* 

<sup>&</sup>lt;sup>117</sup> Id.

<sup>&</sup>lt;sup>118</sup> Id.

<sup>&</sup>lt;sup>119</sup> Id.

<sup>&</sup>lt;sup>120</sup> Id.

<sup>&</sup>lt;sup>121</sup> Civil Judgment, *supra* note 115.

# B. Huawei v. InterDigital

A number of courts have had to decide FRAND issues in recent years in the United States.<sup>122</sup> In the recent *Microsoft v. Motorola* decision, a U.S. court for the first time defined what FRAND means in a standard-setting context.<sup>123</sup> The *Microsoft v. Motorola* decision will be briefly discussed in order to provide context for *Huawei v. InterDigital*, which in some respects parallels analyses in *Microsoft v. Motorola*.

In a 207-page decision, the court addressed Microsoft's claim that Motorola's licensing terms violated its FRAND commitment.<sup>124</sup> There are many nuances to a case of this complexity and length. The case highlights how difficult FRAND calculations can be. Judge Robart analyzed the fifteen *Georgia-Pacific*<sup>125</sup> factors for patent infringement and tweaked the framework to compare patents to the industry standard and to emphasize the FRAND obligation.<sup>126</sup> In undertaking his analysis, Judge Robart scrutinized each patent, standard, and product involved in great detail. He ultimately concluded that the Motorola patents were of exceedingly little importance to the relevant standards or Microsoft products at issue.<sup>127</sup> Based on this analysis, Judge Robart determined the appropriate FRAND royalty range and rate for each patent. The court determined that Motorola had asked for a rate that was too high.<sup>128</sup> In the case of the 802.11 patent, the difference was from an offer by Motorola of \$6.00 to \$8.00 to an awarded royalty of only 3.471 cents as the FRAND rate for that patent.<sup>129</sup>

This detailed analysis in the United States differs from the approach taken in China. In February 2013, the Shenzhen Intermediate People's Court decided two companion cases in a dispute between Huawei and InterDigital involving FRAND-related issues.<sup>130</sup> Below is an analysis of the two decisions, with an important caveat that since the decisions are the only FRAND decisions in China, it remains to be seen whether the court's reasoning in the two cases is specific to the facts of those cases or will be applied more broadly.

In the two companion proceedings, Huawei Technologies Co., Ltd. (a Chinese company)<sup>131</sup> sued InterDigital Inc. (a U.S. company) for violating its FRAND obli-

<sup>&</sup>lt;sup>122</sup> See Jorge L. Contreras, Fixing FRAND: A Pseudo-Pool Approach to Standards-Based Patent Licensing, 79 ANTITRUST L.J. 47, 54 (2013) (providing a table of U.S. FRAND cases).

<sup>&</sup>lt;sup>123</sup> Microsoft Corp. v. Motorola, Inc., No. C10-1823JLR, 2013 U.S. Dist. LEXIS 60233 (W.D. Wash. Apr. 25, 2013).

<sup>&</sup>lt;sup>124</sup> Id.

<sup>&</sup>lt;sup>125</sup> Ga.-Pac. Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116 (S.D.N.Y. 1970).

<sup>&</sup>lt;sup>126</sup> Microsoft Corp., 2013 U.S. Dist. LEXIS 60233, at \*16.

<sup>&</sup>lt;sup>127</sup> *Id.* at \*29, \*31–32, \*36, \*39, \*42, \*46–49, \*64.

<sup>&</sup>lt;sup>128</sup> See id. at \*100 (setting the upper bound of a FRAND rate far below the amount proposed by Motorola).

<sup>&</sup>lt;sup>129</sup> *Id.* at \*99–100.

<sup>&</sup>lt;sup>130</sup> InterDigital, Inc., Annual Report (Form 10-K), at 22–23 (Feb. 26, 2013).

<sup>&</sup>lt;sup>131</sup> Note that unlike many large Chinese firms, Huawei is not a state-owned enterprise. For a discussion of Chinese SOE corporate governance, see Li-Wen Lin & Curtis J. Milhaupt, We Are the (National) Champions: Understanding the Mechanisms of State Capitalism in China, 65 STAN. L. REV.

gations and for violating China's AML.<sup>132</sup> Unlike the lengthy U.S. decision in *Microsoft v. Motorola*, which is publicly available, the Chinese decisions have never been published.<sup>133</sup> The only public discussion of the decision comes from the SEC filings made by InterDigital<sup>134</sup> and two articles on the cases published by the three presiding judges.<sup>135</sup>

The lack of transparency in terms of the non-publication of the *Huawei v. InterDigital* decisions plays to concerns that Western firms have about the implementation of the AML and the possibility that its goals may be based on industrial policy. The lack of transparency is particularly important because it impacts the legitimacy of the Chinese antitrust system both domestically and internationally. In the absence of a publicly available decision explaining the basis for the court's conclusions, it is difficult to understand how the court has interpreted and applied FRAND.

Included below is the entire discussion of the InterDigital cases mentioned in InterDigital's 2013 annual report to show how little is publicly known and how much firms doing business in China need to extrapolate FRAND policies in China from this limited information, unless they possess a copy of the decision. Also note that as this is an InterDigital filing, so there may be a question of whether the framing of the facts by them is entirely neutral:

On February 4, 2013, the Shenzhen Intermediate People's Court issued rulings in the two proceedings. With respect to the first complaint, the court decided that InterDigital had violated the Chinese Anti-Monopoly Law by (i) making proposals for royalties from Huawei that the court believed were excessive, (ii) tying the licensing of essential patents to the licensing of non-essential patents, (iii) requesting as part of its licensing proposals that Huawei provide a grant-back of certain patent rights to InterDigital and (iv) commencing a USITC action against Huawei while still in discussions with Huawei for a license. Based on these findings, the court ordered InterDigital to cease the alleged excessive pricing and

<sup>697 (2013).</sup> For a discussion of antitrust issues involving SOEs, see D. Daniel Sokol, *Competition Policy and Comparative Corporate Governance of State-Owned Enterprises*, 2009 BYU L. Rev. 1713 (2009); David E.M. Sappington & J. Gregory Sidak, *Competition Law for State-Owned Enterprises*, 71 ANTITRUST L.J. 479 (2004).

<sup>&</sup>lt;sup>132</sup> Both cases were subsequently affirmed by the Guangdong High People's Court in October 2013. InterDigital, Inc., Annual Report (Form 10-K), at 26 (Feb. 24, 2014).

<sup>&</sup>lt;sup>133</sup> At the parties' request, the trials in the two cases were closed to the public on business secret grounds. However, even for closed-door hearings, a redacted version of the decision should be made public.

<sup>&</sup>lt;sup>134</sup> InterDigital, Inc., Annual Report (Form 10-K) (Feb. 26, 2013).

<sup>&</sup>lt;sup>135</sup> Ye Ruosi, Zhu Jianjun & Chen Wenqun (叶若思, 祝建军, 陈文全), Biaozhun Biyao Zhuanli Quan Ren Lanyong Shichang Zhipei Diwei Gouchen Longduan dde Rendin (标准必要专利权人滥用市 场支配地位构成垄断的认定) [Determining Whether Standard-SEP Holder Abused Its Dominant Position], DIANZI ZHISHI CHANQUAN (《电子知识产权》) [J. ELECS. INTELL. PROP. RTS.] 46–52 (Mar. 2013) (China) [hereinafter Dominant Position] (on file with authors); Ye Ruosi, Zhu Jianjun & Chen Wenqun (叶若思, 祝建军, 陈文全), Biaozhun Biyao Zhuanli Shiyong Fei Jiufen Zhong FRAND Guize de Sifa Shiyong (标准必要专利使用费纠纷中FRAND规则的司法适用) [Judicial Application of FRAND Rules in Disputes Involving Royalties for Standard Essential Patents (SEPs)], DIANZI ZHISHI CHANQUAN (《电子知识产权》) [J. ELECS. INTELL. PROP. RTS.] 54–61 (Apr. 2013) (China) [hereinafter Judicial Application of FRAND Rules] (on file with authors).

alleged improper bundling of InterDigital's Chinese essential and non-essential patents, and to pay Huawei approximately 3.2 million USD in damages related to attorneys fees and other charges, without disclosing a factual basis for its determination of damages. The court dismissed Huawei's remaining allegations, including Huawei's claim that InterDigital improperly sought a worldwide license and improperly sought to bundle the licensing of essential patents on multiple generations of technologies. With respect to the second complaint, the court determined that, despite the fact that the FRAND requirement originates from ETSI's Intellectual Property Rights policy, which refers to French law, InterDigital's license offers to Huawei should be evaluated under Chinese law. Under Chinese law, the court concluded that the offers did not comply with FRAND. The court further ruled that the royalties to be paid by Huawei for InterDigital's 2G, 3G and 4G essential Chinese patents under Chinese law should not exceed 0.019% of the actual sales price of each Huawei product, without explanation as to how it arrived at this calculation. InterDigital intends to appeal both decisions.<sup>136</sup>

One item that stands out in the SEC filing is the actual amount of the FRAND rate. According to the SEC filing, the court ruled, without explanation, that the royalties to be paid by Huawei for InterDigital's SEPs should not exceed 0.019% of the actual sales price of each Huawei product.<sup>137</sup> That rate, according to one commentator, is "orders of magnitude lower than the single-digit percentage demands" one commonly finds for large portfolio SEPs in the telecommunications industry.<sup>138</sup> But given how little information is publicly available, it is difficult for any reader of the case to really know if that is true.

From the two articles authored by the judges who presided over *Huawei v. InterDigital*, certain inklings about the cases can be drawn out.<sup>139</sup> According to the judges, InterDigital offered licensing terms to Huawei that were much higher than those offered to Apple or Samsung, thereby committing excessive and discriminatory pricing and violating its FRAND obligations.<sup>140</sup> Furthermore, the judges wrote that InterDigital committed a tying abuse by tying standard-essential patents with non-standard-essential patents.<sup>141</sup>

In their articles, the judges also defended their holding that the disputes between Huawei and InterDigital should be governed by Chinese law, not by French law.<sup>142</sup> The judges wrote that the standards in dispute were not standards adopted by the European Telecommunications Standards Institute (ETSI), but were Chinese standards adopted under Chinese law.<sup>143</sup> Furthermore, the judges asserted that the place of domicile and the main business territory of the plaintiff, the place of implementation for the SEPs, and the place of licensing negotiations were all in Chi-

<sup>&</sup>lt;sup>136</sup> InterDigital, Inc., Annual Report (Form 10-K), at 23 (Feb. 26, 2013).

<sup>&</sup>lt;sup>137</sup> Id.

<sup>&</sup>lt;sup>138</sup> Leon B. Greenfield et al., *SEP Enforcement Disputes Beyond the Water's Edge: A Survey of Recent Non-U.S. Decisions*, ANTITRUST, Summer 2013, at 50, 53.

<sup>&</sup>lt;sup>139</sup> This article focuses on the FRAND specific issues. We note, but do not discuss, a rather crude market definition in the decision and aspects of the decision that raise extraterritorial issues.

<sup>&</sup>lt;sup>140</sup> Dominant Position, supra note 135, at 51.

<sup>&</sup>lt;sup>141</sup> *Id.* at 52.

<sup>&</sup>lt;sup>142</sup> Judicial Application of FRAND Rules, supra note 135, at 60.

<sup>&</sup>lt;sup>143</sup> *Id.* 

na.<sup>144</sup> The judges concluded that Chinese law should govern the disputes in accordance with the closest-nexus principle.<sup>145</sup>

To determine the reasonableness of the licensing terms offered by InterDigital to Huawei, the court examined publicly available information, including information on InterDigital's licensing revenues, to estimate the fees that InterDigital charged or proposed to charge Apple and Samsung.<sup>146</sup> The court needed to reverse engineer these numbers because InterDigital refused to disclose them, fearing that they would be provided to non-parties to the case.<sup>147</sup> The court then compared those estimates to the fees that InterDigital had demanded from Huawei and found the latter to be much higher.<sup>148</sup>

Some factors mentioned in the judges' articles look different from factors that would be relevant in a U.S. proceeding. The judges in their articles mentioned jobrelated factors.<sup>149</sup> Huawei employs 51,000 R&D staff with over 49,000 patent applications and 17,765 patents granted worldwide.<sup>150</sup> In contrast, InterDigital has 260 R&D personnel with only 19,500 patents and patent applications.<sup>151</sup> The judges also noted that InterDigital does not engage in any substantive production activities.<sup>152</sup> Indeed, when discussing the reasonableness of InterDigital's offers and the abuse of dominance by InterDigital, the judges rely heavily on the fact that Inter-Digital does not have a production business.<sup>153</sup> The judges stated that the consideration of those factors was intended to measure the rate of return that would be commensurate with InterDigital's contributions to telecommunications technologies.<sup>154</sup> Apparently the judges assumed that the number of research personnel and the number of patents and patent applications were a good indicator of the value of the patents—an assumption that is obviously false.

Huawei v. InterDigital suggest two possible interpretations. The first is that InterDigital violated its FRAND commitment to Huawei and also committed other antitrust violations such as tying SEPs to other non-SEPs. The main indicia for this interpretation would be the alleged difference between the royalty rates offered to Huawei and the royalty rates offered to Apple and Samsung. Since the rates offered to Huawei were significantly higher than those offered to Apple and Samsung, InterDigital's action was discriminatory and therefore excessive, according to this interpretation. This interpretation appears to be strongly supported if the facts are true as represented. This interpretation is undermined, however, by the fact that the de-

<sup>&</sup>lt;sup>144</sup> *Id.* at 57.

<sup>&</sup>lt;sup>145</sup> *Id.* 

<sup>&</sup>lt;sup>146</sup> *Id.* at 61. <sup>147</sup> Id.

<sup>148</sup> Judicial Application of FRAND Rules, supra note 135, at 57.

<sup>149</sup> Id. at 56.

<sup>&</sup>lt;sup>150</sup> Id.

<sup>&</sup>lt;sup>151</sup> *Id.* <sup>152</sup> *Id.* 

<sup>&</sup>lt;sup>153</sup> *Id.* 

<sup>&</sup>lt;sup>154</sup> Judicial Application of FRAND Rules, supra note 135, at 61.

cisions did not disclose how the specific FRAND rate (0.019%) was calculated. Moreover, not discussed in the publicly available documents are a number of procedural problems that occurred in the case (e.g., non-Chinese lawyers were not allowed to attend hearings, there was a lack of access to information, and InterDigital could not provide evidence containing confidential business information because it did not have assurance that the information would not be disclosed to its Chinese customers and competitors).

An alternative interpretation of the decisions is that they played to the industrial policy concern of low royalty rates for the purpose of improving Huawei's position as a telecommunications equipment manufacturer with lower prices for a needed input. As noted earlier, the reasoning behind setting the FRAND rate at that specific amount was not spelled out in the decisions. Given the influence of the government over judges in China, the decisions raise the possibility that in China, ultimately it is the Chinese government that determines FRAND rates (rather than judges). Further adding to such concerns is the revelation that, subsequent to the cases, NDRC initiated an investigation into possible AML violations by InterDigital and allegedly stated that it could not guarantee the safety of executives InterDigital planned to send to China to meet with the agency.<sup>155</sup> From this perspective, Huawei's case may have been stronger had the litigation occurred in the United States rather than China. The problem with the lack of transparency in China's judicial systems is that one cannot easily distinguish between these two interpretations, although the weight of evidence does favor the latter.

The *InterDigital* cases are significant. The perhaps terrifying effect of the cases on global companies that have been involved in SEP wars elsewhere is that the SEP war has opened a new front—China. This new battleground is different from FRAND wars in the United States and Europe because, in China, there has been less rigorous IPR enforcement, there is a concern with excessive prices charged by Western patent-holders, and there is a government sponsored indigenous innovation policy. The broader implications for Chinese competition law in the context of FRAND remain unclear, largely because of selective enforcement of the AML (often against Western firms) and due process concerns that remain a significant problem relative to the West. Because of this backdrop, even if a case were correctly decided, many might frame the decision in the context of industrial policy given their prior beliefs about the Chinese system.

<sup>&</sup>lt;sup>155</sup> InterDigital Execs Fear Arrest, Won't Meet China Antitrust Agency, REUTERS, Dec. 16, 2013, available at http://www.reuters.com/article/2013/12/16/interdigitalchina-idUSL3N0JV10020131216.

# **IV.** Conclusion

The Chinese approach to FRAND may have profound global implications for antitrust FRAND policy and the potential strategic use of antitrust globally.<sup>156</sup> But the Chinese FRAND policy is clouded with significant uncertainty, due in part to China's institutional contexts. It is possible that Chinese FRAND policy is merely at a nascent stage of development in which institutional limitations lead to outcomes that can be explained on non-industrial policy grounds. Yet given China's institutional contexts, one cannot be certain that industrial policy is not a factor.

In practice, patent implementers may have much more leverage in China than in Western antitrust regimes because of government pressures. These pressures have become quite significant in some areas, such as merger remedies by MOFCOM and pricing enforcement by NDRC, where the pressures are not based on competition concerns.<sup>157</sup> FRAND may become, in this Chinese context, a possible tool of rate regulation.

To the extent that industrial policy does guide FRAND policy in China, it presents negative consequences for innovation in China. Insufficient incentives for SEP holders may lead to a problem of "reverse-patent hold-up"<sup>158</sup> that would chill investment standards. Multinational firms will be less willing to invest in China if they believe that the Chinese antitrust-IP system is rigged against them. More importantly, as China moves from implementer (based on lowest cost) to innovator (which commands a cost premium), efforts to impose unreasonable restrictions that lack genuine antitrust basis will impede Chinese innovation and may cause China to fall into a middle-income trap.<sup>159</sup> For these reasons, a FRAND policy focused on short-term industrial policy needs would be shortsighted.

s%20Scope%20Broadens\_Sep%202013.pdf. The recent *River Sand* case is the first case to rely upon the AML statutory language dealing with excessive pricing. *Id*.

<sup>&</sup>lt;sup>156</sup> D. Daniel Sokol, The Strategic Use of Public and Private Litigation in Antitrust as Business Strategy, 85 S. CAL. L. REV. 689, 690 (2012).

<sup>&</sup>lt;sup>157</sup> D. Daniel Sokol, Christine A. Varney & Dai Jianmin (戴健民), Weihe Fan Longduan Fa Faner Dailai Kunrao? (为何《反垄断法》反而带来困扰?) [Why Does the Anti-Monopoly Law Bring Worries?], FORBES CHINA, Aug. 14, 2013, available at http://www.forbeschina.com/ review/201308/0027701.shtml. The NDRC can bring excessive pricing cases. HOGAN LOVELLS, NDRC's ANTITRUST CRACKDOWN CONTINUES AND ITS SCOPE BROADENS (2013), available at http://www.hoganlovells.com/files/Publication/dfa1516e-6775-4258-9746-16bbe9a6ff4c/ Presentation/PublicationAttachment/a2ca0d22-74bd-4192-a6dc-0a713aaa773f/ACER%20Alert\_NDRCs%20Antitrust%20Croatcdown%20Continues%20and%20it (%20D)

<sup>&</sup>lt;sup>158</sup> Elyse Dorsey & Matthew R. McGuire, How the Google Consent Order Alters the Process and Outcomes of FRAND Bargaining, 20 GEO. MASON L. REV. 979, 1000–01 (2013).

<sup>&</sup>lt;sup>159</sup> See Pierre-Richard Agénor & Otaviano Canuto, *Middle-Income Growth Traps* (World Bank, Policy Research Working Paper No. 6210, 2012), *available at* http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6210 (giving a general overview of middle-income growth traps).

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