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Patent Litigation in China: Protecting Rights or the Local Economy?

Brian J. Love*
Christian Helmers**
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ABSTRACT

Though it lacked a patent system until 1985, China is now the world leader in patent filings and litigation. Despite the meteoric rise of the Chinese patent system, many in the West believe that it acts primarily to facilitate local protectionism rather than innovation. Recent high-profile patent suits filed by relatively unknown Chinese firms against high-profile foreign tech companies, like Apple, Samsung, and Dell, have only added fuel to the fire. Surprisingly, given how commonplace assertions of Chinese protectionism are, little empirical evidence exists to support them. This Article contributes to the literature on this topic by analyzing five years of data (2006 to 2011) on patent suits litigated in courts with the fifty most active intellectual property dockets in China. Among other things, we find that Chinese patent suits are highly concentrated in a handful of major urban jurisdictions—not in smaller inland cities where protectionism is most often alleged to take place—and also have rates of success and appeal very similar to those of US patent suits. We also observe that foreign companies appear in Chinese patent suits most often as patent enforcers, not as accused infringers, and win their cases roughly as often as Chinese patentees. Finally, we find that patents litigated in

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China are generally more than five years old at the time of assertion and frequently have family members issued by foreign patent offices. Together, these findings contradict conventional wisdom that China's patent system has been structured to benefit domestic industry at the expense of foreign firms.

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I. INTRODUCTION

In recent years, patent activity has exploded in China. Since the mid-1990s, the number of patent applications filed annually with China's State Intellectual Property Office (SIPO) has increased more than ninety-fold to a total of 928,177 in 2014,¹ roughly 40 percent more than the United States Patent and Trademark Office (USPTO) received that year.² China has also become the global leader in patent litigation with 9,648 suits filed in 2014,³ roughly 90 percent more than the total number filed in the United States.⁴

1. State Intell. Prop. Off., Monthly Statistics Reports (Aug. 27, 2015), http://english.sipo.gov.cn/statistics/2014/12/201502/t20150204_1071538.html [https://perma.cc/CE36-R83S] (reporting that in 2014, a total of 928,177 "invention" patent applications were filed in China). China, like most industrialized nations, recognizes three types of patents: invention patents, design patents, and utility models, see DOUGLAS CLARK, PATENT LITIGATION IN CHINA 29 (2011); however, in legal parlance, the term "patent" is typically used to refer exclusively to "invention" patents. We follow the same convention in this Article. All references *infra* to "patents" are, unless otherwise indicated, references to "invention patents."

2. Compare *id.* with U.S. Pat. & Trademark Off., U.S. Patent Statistics Chart Calendar Years 1963–2014 (Aug. 16, 2015), http://www.uspto.gov/web/offices/ac/ido/oip/taf/us_stat.htm [https://perma.cc/9GK4-VZHP] (reporting that in 2014, a total of 578,802 "utility" patent applications were filed in the United States).

3. Supreme People's Court of China, IP Protection by Chinese Courts in 2014, http://www.wipo.int/wipolex/en/text.jsp?file_id=371329 [https://perma.cc/X4VR-GTWF]; see also

Little evidence, however, links China's patent boom to an actual increase in innovation.⁵ Rather, the rapid growth coincides with a major government campaign designed to increase domestic patent activity through incentives and political pressure.⁶ In contrast to American patent policymakers who have largely worked over the past decade to rein in some of the US patent system's excesses,⁷ the

Erin Coe, *5 Tips In The Art Of Patent War In China*, LAW360 (May 29, 2014), <https://www.morganlewis.com/news/5-tips-in-the-art-of-patent-war-in-china-law360>

[<https://perma.cc/Y7WT-DQZK>] ("Chinese courts have seen patent cases more than double over a four-year period, from 4,422 filings in 2009 to 9,680 suits in 2012 . . ."); YAN ZHAO, CHINA'S PATENT LITIGATION LANDSCAPE SHIFTS, DLA PIPER (Sept. 5, 2012), <http://www.dlapiper.com/en/us/insights/publications/2012/09/chinas-patent-litigation-landscape-shifts/> [<https://perma.cc/KWA6-FXL8>] (reporting that Chinese courts saw 7,819 new patent suits in 2011 and 5,785 in 2010). Though we were unable to obtain official statistics on the types of patents enforced in these cases, anecdotal evidence suggests that less than half (and perhaps as few as one-fifth) of these suits allege infringement of an invention patent. Hon. Zhou Yunchuan, Supreme People's Court of the People's Republic of China, Remarks at the Law in the Global Marketplace Conference at Santa Clara University School of Law (Nov. 4, 2015).

4. Compare IP Protection by Chinese Courts in 2014, *supra* note 3, with Lex Machina (March 21, 2016), <https://lexmachina.com> [<https://perma.cc/FCY2-MYYX>] (reporting that a total of 5,070 patent suits were filed in the U.S. in 2014, 6,113 in 2013, 5,411 in 2012, 3,530 in 2011, 2,714 in 2010, and 2,502 in 2009); see also Xuan-Thao Nguyen, *The China We Hardly Know: Revealing the New China's Intellectual Property Regime*, 55 ST. LOUIS U. L.J. 773, 777-78 (2011) (comparing the number of patent suits filed in China and the United States in 2006 and 2008).

5. Many have questioned the quality of patents fueling China's patent explosion. See *Patents, Yes; Ideas, Maybe*, ECONOMIST, Oct. 16, 2010, at 79 (reporting that in response to government mandates, a "cottage industry has sprung up to produce patents of suspect value"); Markus Eberhardt, et al., *What Can Explain the Chinese Patent Explosion?*, CSAE Working Paper WPS/2011-15, at *4, *17 (2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1965963 [<https://perma.cc/3QDB-HH6W>] (finding that the growth of domestic patenting in China is largely attributable to a small number of Chinese information technology (IT) equipment manufacturers and thus "most likely not" a "wider technological take-off among Chinese companies"); *High Quantity, Low Quality: China's Patent Boom*, WANT CHINA TIMES (June 24, 2014), <http://www.wantchinatimes.com/news-subclass-ent.aspx?cid=1102&MainCatID=11&id=20140624000124> ("China's patent business is booming in terms of the number of applications, but the quality of patents is still poor, according to a Monday report to the top legislature.").

6. These enticements include cash payments, tax breaks, better housing, and, for professors, increased credit toward tenure. *Patents, Yes; Ideas, Maybe*, *supra* note 5, at 78. Several recent studies link the growth in Chinese patenting to government subsidies like these and resulting gamesmanship on the part of patentees. See Jianwei Dang & Kazuyuki Motohashi, *Patent Statistics: A Good Indicator for Innovation in China? Patent Subsidy Program Impacts on Patent Quality*, 35 CHINA ECON. REV. 137 (estimating that government subsidy programs inflate Chinese patent counts by 30 percent); Zhen Lei et al., *Patent Subsidy and Patent Filing in China*, Working Paper (2012) (finding that, after the institution of government subsidies, Chinese patentees received the same number of patent claims, but spread those claims out over a larger number of individual issued patents); see also *Patent Fiction*, ECONOMIST (Dec. 11, 2014), <http://www.economist.com/news/finance-and-economics/21636100-are-ambitious-bureaucrats-fomenting-or-feigning-innovation-patent-fiction> [<https://perma.cc/6B7Q-NU32>] ("[T]he explosion of patent filings is not the result of local researchers suddenly coming up with twice as many ingenious inventions: it is a response to a government order.").

7. Since the mid-2000s, congressional interest in the US patent system has largely focused on reforms designed to eliminate low quality patents and reduce the level of patent litigation. After years of debate, Congress passed the Leahy-Smith America Invents Act (AIA) in

Chinese government has been hard at work encouraging patent filings and enforcement among its citizens. These efforts, formally embodied in the China State Council's National Intellectual Property Strategy ("National IP Strategy"), have the stated goal of raising China's rank "among the advanced countries of the world in terms of the annual number of patents for inventions granted to . . . domestic applicants" and thereby "improv[ing] China's capacity to create, utilize, protect and administer intellectual property" by 2020.⁸

Though the Chinese government insists that the goal of the National IP Strategy is to "mak[e] China an innovative country,"⁹ many in the West contend that the practical impact—if not the true goal—of the policy shift is protectionism and thinly-veiled piracy, rather than innovation. According to a report prepared by the US Chamber of Commerce and the Global Intellectual Property Center, China's patent reform efforts are part of a "refocus on state-industry monopolies" that is "increasingly perceived as anti-foreign" and "considered by many international technology companies to be a blueprint for technology theft on a scale the world has never seen before."¹⁰ Suggestions are commonplace, even from US policymakers,

2011. Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in various sections of Title 35). Among other reforms, the AIA established a suite of powerful administrative procedures for challenging the validity of issued patents. See Brian J. Love & Shawn Ambawani, *Inter Partes Review: An Early Look at the Numbers*, 81 U. CHI. L. REV. DIALOGUE 93 (2014) (comparing the new regime of "inter partes review" with the pre-AIA regime of "inter partes reexamination"). In the last two terms, Congress has considered close to a dozen additional bills aimed at further reducing the cost and prevalence of patent litigation. See *Patent Progress's Guide to Federal Patent Reform Legislation*, PATENT PROGRESS (Aug. 26, 2015), <http://www.patentprogress.org/patent-progress-legislation-guides/patent-progress-guide-patent-reform-legislation/> [https://perma.cc/W7YK-V75R] (summarizing patent reform bills introduced during the 113th and 114th Congresses).

8. Outline of the National Intellectual Property Strategy (2008) [hereinafter National IP Strategy], <http://www.wipo.int/edocs/lexdocs/laws/en/cn/cn021en.pdf> [https://perma.cc/8JCE-W34V].

9. *Id.*

10. CHINA STRATEGY: REFINING YOURS COULD OPEN UP DOORS, PRICEWATERHOUSECOOPERS LLP, 6 (2011), <http://www.pwc.com/us/en/private-company-services/publications/assets/gyb-63-china-strategies.pdf> [https://perma.cc/V9RY-A5MN] ("In 2010, surveys by both the American Chamber of Commerce (AmCham) in Shanghai and the US-China Business Council (USCBC) pointed to perceived protectionism, lack of protection for IP rights, and struggles with the evolving regulatory environment."); JAMES MCGREGOR, CHINA'S DRIVE FOR INDIGENOUS INNOVATION: A WEB OF INDUSTRIAL POLICIES, ACPO WORLDWIDE, 4–5 (2010), https://www.uschamber.com/sites/default/files/legacy/reports/100728chinareport_0.pdf [https://perma.cc/W27P-94MX]; see also Peter K. Yu, *Intellectual Property, Economic Development, and the China Puzzle*, OCCASIONAL PAPERS IN INTELL. PROP. L., at 34 (2007), <http://www.law.drake.edu/clinicsCenters/ip/docs/ipResearch-op1.pdf> [https://perma.cc/Y7QU-ZLW7] (noting that "[i]n China, the oft-cited barriers to intellectual property reforms include . . . widespread corruption, abuse by government officials, different values placed on intellectual property infringement, . . . local protectionism, and the decentralization of government."); Andreas Bieberbach, *IP Strategies in Business Operations with China*, 9 J. BUS. CHEM. 161, 161 (2012), <http://www.businesschemistry.org/downloads/issues/Issue10-2012.pdf> [https://perma.cc/

that the patenting push is an attempt to whitewash and legitimize what, in essence, remains a system built on piracy of foreign inventions.¹¹

Western complaints about China's patent surge generally take two forms. First, many allege that Chinese patents simply crib inventions previously made elsewhere.¹² Recent headline-grabbing patent suits filed by relatively unknown Chinese firms against high-profile foreign technology companies have added fuel to this fire.¹³ Apple has been sued for allegedly infringing Chinese patent rights that cover virtual assistant Siri, video-telephony service FaceTime, and aspects of the famously sleek designs of the iPod, iPad, and iPhone.¹⁴ Other household names, including Canon, Dell, Philips,

KCY7-ZXAZ] (“[S]ince 1984, . . . Chinese Patent Law has been . . . constantly adjusted to the actual needs . . . of . . . Chinese companies.”); Danny Friedmann, *China's National IP Strategy 2008*, DUNCAN BUCKNELL: GLOBAL INTELLECTUAL PROPERTY STRATEGY (2008), <http://duncanbucknell.com/2008/09/11/chinas-national-ip-strategy-2008/> [<https://perma.cc/GV8M-VVT8>] (noting the existence of “prevalent legal protectionism” in China); Mike Masnick, *China's Patent Strategy Isn't About Innovation; It's an Economic Weapon Against Foreign Companies*, TECH DIRT (Jan. 4, 2011), <https://www.techdirt.com/articles/20110102/15230512491/chinas-patent-strategy-isnt-about-innovation-its-economic-weapon-against-foreign-companies.shtml> [<https://perma.cc/9DLL-NGDW>].

11. See Teresa Stanek Rea, Deputy Under Secretary of Commerce for Intellectual Property, Remarks at the Fordham Law School China Event (Jan. 28, 2013), http://www.uspto.gov/news/speeches/2013/rea_fordham_china.jsp [<https://perma.cc/9Y7B-RPVJ>] (“This massive growth presents unique problems for U.S. rights holders, who have complained about patent quality [C]ompanies that have filed for patent protection of pharmaceutical compounds at SIPO have had their applications denied, while corresponding patent applications in other patent offices, such as the Japan Patent Office, the Korean IP Office, the European patent office, and others, have been granted. That is troublesome.”); Lara Farrar, *Can China Become an Intellectual Property Powerhouse?*, CNN (Feb. 15, 2011), <http://edition.cnn.com/2011/BUSINESS/02/14/china.intellectual.property/> [<https://perma.cc/2EQU-RHB6>] (“[The Chinese] say that if you don't come to China to file, you cannot accuse us of not respecting your own intellectual property because you don't even care to go to the Chinese patent office.” (quoting Tony Chen, a partner in Jones Day's Shanghai office)). For an example of Chinese firms' desire to shed their reputation for piracy, see Bieberbach, *supra* note 10, at 161–62 (“I don't mind how much [the accused infringer] pays us. What I care about is winning the case. It will help change the stereotype that it is Chinese companies that are always accused in IPR cases.” (quoting Nan Cunhui, Chairman of Chint Group, a Chinese electronics company)).

12. See Vivek Wadhwa, *China Could Game the U.S. in Intellectual Property*, BUSINESSWEEK (Jan. 10, 2011), http://www.bloomberg.com/bw/technology/content/jan2011/tc2011017_509416.htm [<https://perma.cc/AYD7-P9US>] (“A vast number of China's academic papers are plagiarized or irrelevant; its government-sponsored patents will be similarly tainted.”); Vivek Wadhwa, *Let's Compete on Innovation Rather Than Patents*, TECHCRUNCH (Jan. 15, 2011), <http://techcrunch.com/2011/01/15/lets-compete-on-innovation/> [<https://perma.cc/A4H5-XU6K>] (recounting an anecdote about a Chinese supplier patenting its foreign customers' technology).

13. See Chris Neumeyer, *China's Great Leap Forward in Patents*, IPWATCHDOG (Apr. 4, 2013), <http://www.ipwatchdog.com/2013/04/04/chinas-great-leap-forward-in-patents/id=38625/> [<https://perma.cc/S8WQ-VUAF>] (summarizing these suits).

14. *Id.*

Samsung, and Sony, have also been sued, losing multi-million dollar verdicts in some instances.¹⁵

Second, many contend that foreign companies cannot get a fair shake in the Chinese judicial system and, thus, it would be a Sisyphean endeavor for Western technology companies to engage the Chinese patent system as a means of deterring infringement.¹⁶ Warnings about “local protectionism,” “bias,” “corruption,” and “lack of impartiality”—especially in China’s inland provinces—are ubiquitous and go virtually unchallenged at the highest levels of government, the legal profession, and academia.¹⁷

However, given how strident and commonplace assertions like these are, surprisingly little empirical evidence exists to support them.¹⁸ Despite the meteoric rise of patent activity in China—and an

15. *Id.*

16. See Bieberbach, *supra* note 10 at 164 (“It is a ‘common understanding’ . . . that western companies cannot enforce their IP rights in China because of the weak legal system in China.”); Rea, *supra* note 11 (“[R]ight holders continue to complain about China’s civil judicial enforcement system We have also heard about many cases of decisions being made based on local protectionism and bias towards local companies”); BENJAMIN BAI, IGNORE AT YOUR OWN PERIL: INTELLECTUAL PROPERTY (IP) STRATEGIES FOR CHINA, MARSH INSIGHTS: INTELLECTUAL PROPERTY (2010), [http://www.jonesday.com/files/Publication/8f265dea-89c0-408d-8b27-cc7a9b384340/Presentation/PublicationAttachment/5d0c3d30-1af4-4436-b6ee-d4fc5eea8768/Intellectual%20Property%20Update%20\(Issue%20\).pdf](http://www.jonesday.com/files/Publication/8f265dea-89c0-408d-8b27-cc7a9b384340/Presentation/PublicationAttachment/5d0c3d30-1af4-4436-b6ee-d4fc5eea8768/Intellectual%20Property%20Update%20(Issue%20).pdf) [https://perma.cc/CG7M-NSHM] (“[M]any multinational companies are reluctant to enforce their IP in China due to the perceived lack of impartiality.”); TINA E. HULSE, ET AL., BUILDING ASSETS FOR A BETTER TOMORROW, FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, (Mar. 2008), <http://www.finnegan.com/resources/articles/articlesdetail.aspx?news=344b7049-cc9f-43c3-99cd-daedb90a9d01> [https://perma.cc/F2Z9-QDCT] (“[E]nforcement may sound appealing at first, but these procedures sometimes suffer from local protectionism and inadequate government resources. . . .”); DEANNA WONG, ET AL., INTELLECTUAL PROPERTY ENFORCEMENT IN CHINA: CHALLENGES AND OPPORTUNITIES, HOGAN LOVELLS 5, 8 (2012), http://m.hoganlovells.com/files/Publication/3126b99b-33d1-48a8-889e-6b3eaa821235/Presentation/PublicationAttachment/d9ef5385-40bb-4fd0-99c5-6bf1ffd97cf4/Client_Note_Intellectual_Property_Enforcement_in_China_Challenges_and_Opportunitie.PDF [https://perma.cc/ZXS9-GB2G] (noting that “local protectionism is still prevalent in China, as is corruption” and that “[s]ometimes local protectionism also enables losing parties to delay payment for years”); Richard P. Suttmeier & Xiangkui Yao, *China’s IP Transition: Rethinking Intellectual Property Rights in a Rising China*, NAT’L BUREAU OF ASIAN RES. (2011), <http://www.nbr.org/publications/element.aspx?id=520> [https://perma.cc/6C2P-YALV] (noting that “[m]any foreign companies have been reluctant to pursue their rights in the Chinese legal setting”).

17. See Bieberbach, *supra* note 10; Rea, *supra* note 11; BAI, *supra* note 16; HULSE ET AL., *supra* note 16; WONG, *supra* note 16; Suttmeier & Yao, *supra* note 16.

18. Though some studies of Chinese litigation have found evidence of various biases, see Cheryl Xiaoning Long & Jun Wang, *Judicial Local Protectionism in China: An Empirical Study of IP Cases*, 42 INT’L REV. L. & ECON. 48 (2015) (finding that, in IP suits between Chinese firms, plaintiffs litigating in their home towns are significantly more likely to win); Xin He & Yang Su, *Do the ‘Haves’ Come Out Ahead in Shanghai Courts?*, 10 J. EMP. L. STUD. 120, 137 (2013) (finding that, for example, government-owned companies are disproportionately likely to win lawsuits); Xinyuan Chen & Oliver M. Rui, *Judiciary Independence and The Enforcement of Investor Protection Laws: Market Responses to the “1/15” Notice of the Supreme People’s Court of China*, 9 CHINA ECON. Q. 1 (2009) (finding a correlation between firms’ proximity to local courts

apparent commitment by the Chinese government to sustain that growth well into the future—Western scholars have paid relatively little attention. Though a number of researchers (including two of us) have begun to conduct large-scale studies of Chinese firm-level innovation,¹⁹ few in the West have attempted to collect and analyze data on Chinese patent enforcement.²⁰

and their stock prices' response to announcement of a new cause of action), studies of IP litigation in China have generally failed to find evidence of bias against foreign litigants, *see infra* note 20. Outside the academic literature, various Chinese courts and other government sources have also sporadically released statistics suggesting that there is no bias against foreign litigants in IP suits. *See, e.g., Chongqing Enterprises Responding to Foreign Intellectual Property Suits Won Less Than 6%*, CHINA PATENT RIGHTS NETWORK, Jan. 14, 2015, <http://www.prp-cn.com/class21/70389.html> [<https://perma.cc/C89E-55RZ>] (reporting that foreign litigants were involved in thirty-one IP cases filed in Chongqing between 2003 and 2007 and that foreign plaintiffs won 94 percent of their trials); Guangdong Higher People's Court, Guangdong Foreign, Civil Cases Involving Hong Kong, Macao and Taiwan Intellectual Property Investigation Report, Nov. 7, 2014 (reporting that foreign parties had a success rate of "about 70%–80%" in 350 IP cases filed in Guangdong province between 2010 and early 2013), http://www.gdcourts.gov.cn/ecdomain/framework/gdcourt/lgedihgabbbeboelkeboekheeldjmod/jldinjpmabbgboelkeboekheeldjmod.do?isfloat=1&disp_template=pchlilmiaebdbboeljejhkhkkgbjbie&fileid=20141107175435135&moduleIDPage=jldinjpmabbgboelkeboekheeldjmod&siteIDPage=gd-court&infoChecked=0&keyword=&dateFrom=&dateTo= [<https://perma.cc/FC6R-6LST>]; Shi Qian, *Zhejiang Foreign-Related IPR Cases Are Decided in Favor of Foreign Parties at a Rate of 95%*, WEN WEI PO, Apr. 17, 2014, <http://news.wenweipo.com/2014/04/17/NN1404170010.htm> [<https://perma.cc/2YCR-LTHC>] (reporting that foreign plaintiffs filed eighty-five IP suits in Zhejiang Province in 2013 and won 95 percent of the time); Letter from Tian Lipu, Commissioner SIPO, to David Kappos, Director USPTO (Sept. 27, 2012) (reporting that, in a study of eight hundred Chinese patent suits filed in various provinces, foreign parties won more often than the average litigant), http://www.uspto.gov/sites/default/files/ip/ip_overseas/china_team/Commissioner_Tians_letter_to_Mr_Kappos.pdf [<https://perma.cc/9TFU-PJJ5>]; Shanghai No. 2 Intermediate People's Court, 2006–2010 White Paper on Foreign-Related IPR Trials, Mar. 2011, <http://www.shefzy.com/book/bps/2010/p08.html> [<https://perma.cc/LG56-CMT3>] (reporting that foreign parties a success rate of 86 percent in eighty IP cases litigated to a judgment in the court between 2006 and 2010); *Foreign-Related Intellectual Property Rights Cases Are Decided in Favor of Foreign Parties at Rate of Over Half*, CHINA NEWS, Dec. 2, 2010, <http://www.chinanews.com/fz/2010/12-02/2696176.shtml> [<https://perma.cc/JXL3-M373>] (reporting that foreign parties had a success rate of 55 percent in 2,691 IP cases litigated in Beijing No. 1 Intermediate Court between 2006 and 2010).

19. *See* Markus Eberhardt, et al., *What Can Explain the Chinese Patent Explosion?*, CSAE Working Paper WPS/2011-15, at *4, *17 (2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1965963 [<https://perma.cc/EX7P-DHDB>].

20. Only a handful of scholars have conducted empirical studies of Chinese patent enforcement, and none appear to differentiate between enforcement of invention patents, design patents, and utility models. Rongjie Lan, *Are Intellectual Property Litigants Treated Fairer in China's Courts? An Empirical Study of Two Sample Courts*, Indiana University Research Center for Chinese Politics and Business Working Paper #16, at *24–26 (Jan. 1, 2012) (reporting statistics for 668 patent cases (presumably involving all three types of patents) filed in two unnamed Intermediate Courts between 2006 and 2010 and concluding that foreign parties win just as often domestic litigants), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2169373 [<https://perma.cc/3N2Z-9X5T>]; Shenping Yang, *Patent Enforcement in China*, 4 LANDSLIDE 49, 49–50 (2011) (reporting statistics for eighty-eight adjudicated Chinese patent cases (presumably involving all three types of patents) that included a foreign party and finding that foreign parties won 60 percent of the time when litigating against a party from China),

This Article contributes to the literature on this topic by presenting the findings of an empirical study of patent litigation in China. Among other things, we find evidence that Chinese patent litigation is highly concentrated in a few large jurisdictions and has rates of success and of appeal very similar to those seen in the United States.²¹ Most importantly, we also find evidence that contradicts conventional wisdom about China's motivations for establishing, and efforts to implement, the National IP Strategy. Though many suggest China set out to create a system that would benefit domestic industry at the expense of foreign firms, our findings suggest that the system has accomplished the opposite. Contrary to conventional wisdom and high-profile anecdotes, foreign litigants in Chinese patent suits play the role of patentee more often than defendant and fare just as well in their suits as privately owned Chinese firms.²² Moreover, state-owned monopolies—parties the Chinese government presumably has the greatest incentive to protect—rarely sue and, when sued, lose a significant share of their cases.²³

On the whole, our findings suggest that the Western technology community may have been too quick to write off the

http://www.americanbar.org/content/dam/aba/publications/landslide/landslide_november_2011/yang_landslide_novdec_2011.authcheckdam.pdf [<https://perma.cc/L649-DRF6>]; Cheng Miao et al., *Theory and Practice Related to Patent Infringement Damages*, CHINA PATS. & TRADEMARKS, 2009, no. 4, at 15 (reporting data on win rates and remedies for 594 decisions (involving all three types of patents) issued by courts in five provinces in 2007 and 2008 and finding that foreign and domestic patentees win their cases 71 percent and 73 percent of the time, respectively), <http://www.cpahkkt.com/UploadFiles/20100416101503234.Pdf> [<https://perma.cc/UF7K-WPC2>]. Commentators have also examined data on Chinese trademark enforcement, see Nathan W. Snyder, *Putting Numbers to Feelings: Intellectual Property Rights Enforcement in China's Courts: Evidence from Zhejiang Province Trademark Infringement Cases 2004–2009*, 10 NW. J. TECH. & INTELL. PROP. 349, 361 (2012) (reporting statistics for 1,270 trademarks cases filed between 2004 and 2009 in Zhejiang Province and finding that “[f]oreign companies are 4% more likely to win cases that are adjudicated and 22% more likely to receive compensation from winning adjudicated cases or entering mediated agreements”), as well as overall IP enforcement in China, see Jin Haijun, *Statistical Analysis of Intellectual Property Rights Classic Cases*, 2015 INTELL. PROP. (BEIJING) 31, 37 (reporting statistics for 166 IP cases published in the Bulletin of the People's Supreme Court of China, including that foreign parties were involved in thirty-three suits and won 73 percent of the time), http://law.cssn.cn/fx/fx_zscqfx/201511/t20151116_2595823.shtml [<https://perma.cc/WET9-XY6L>]; Long & Wang, *supra* note 18 (reporting statistics for a set of 102 IP cases published in the Bulletin of the People's Supreme Court of China and a second set of 449 IP cases filed in five provinces between 1994 and 2009); Alan J. Cox & Kristina Sepetys, *Intellectual Property Rights Protection in China: Trends in Litigation and Economic Damages*, NERA Economic Consulting, at 20 (2009) (studying damages awarded by Chinese courts in a sample of 179 IP cases between 2002 and 2008, and finding that “the amount of the median award is not different when a Chinese firm is adverse to a foreign firm, regardless of which firm is the plaintiff”), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1330619 [<https://perma.cc/X8R9-BND2>].

21. See *infra* Part IV.A.

22. See *infra* Part IV.B.

23. See *infra* Part IV.B.

Chinese patent system as a rigged game. To the extent that Chinese authorities sought to establish a protectionist system, they appear to be failing. Rather, they seem to have opened the door for foreign innovators to seek redress against local copyists. Industries that have long accused Chinese firms of idea theft may be well advised to take a peek inside.²⁴

Part II of this Article provides an overview of the Chinese patent litigation system. Part III describes our data collection methodology. Part IV describes our findings, divided into jurisdiction-, litigant-, and patent-specific findings. Finally, Part V assesses what our findings suggest about the state of patent enforcement in China, with a particular focus on whether the National IP Strategy has lived up to its architects' expectations.

II. PATENT ENFORCEMENT IN CHINA

With almost a million patent applications filed in China last year, it is hard to believe that the nation had no patent system until 1985. Originally passed by the National People's Congress in 1984, the "Patent Law of the People's Republic of China" has been amended three times—most recently in 2008—and is supplemented by, among other sources, regulations promulgated by the State Council and guidelines, measures, and "interpretations" issued by the Supreme People's Court of China.²⁵ Because China is a civil law jurisdiction, however, decisions of the Supreme People's Court (and all other courts for that matter) in individual cases have little direct effect on Chinese patent law.²⁶

Claims of infringement can be pursued and defended both administratively and judicially. In the administrative system, challenges to the validity of issued patents are handled by SIPO's Patent Review and Adjudication Board (PRAB).²⁷ In fact, because Chinese patent suits are limited to the issue of infringement, the PRAB is the sole venue of first instance for validity challenges.²⁸

24. Limitations to our study include a lack of data on settled cases and a lack of data on cases litigated after 2011. For more discussion of these limitations, see *infra* Part V.

25. DOUGLAS CLARK, *supra* note 1, at 31-32; Yang, *supra* note 20, at 51-53. In addition, China ratified the Patent Cooperation Treaty in 1994. *The PCT Now Has 148 Contracting States*, WORLD INTELL. PROP. ORG. (Aug. 25, 2015), http://www.wipo.int/pct/en/pct_contracting_states.html [<https://perma.cc/62YL-DVCW>] (China ratified the TRIPS Agreement in 2001); *China and the WTO*, WORLD TRADE ORG. (Aug. 25, 2015), https://www.wto.org/english/thewto_e/countries_e/china_e.htm [<https://perma.cc/95U7-JVGY>].

26. CLARK, *supra* note 1, at 10.

27. *Id.* at 13.

28. CLARK, *supra* note 1, at 13. Thus, in this sense, China has a bifurcated system like that in effect in Germany, which separates infringement and patent validity. See Katrin Cremers

Allegations of infringement can also be brought to the attention of local branches of SIPO, which are authorized to “order the infringer to stop the infringing act” but are unable to award monetary damages.²⁹ If SIPO finds infringement or invalidity, its decision can be—and frequently is—appealed to the court system.³⁰ As a result, most serious cases eventually wind up in court.

With the exception of appeals from the PRAB, Chinese courts are restricted to deciding the issue of infringement.³¹ Chinese patent suits involve relatively little discovery³² and proceed quickly, generally reaching a decision on the merits six to eighteen months after filing.³³ In cases where infringement is shown, courts have broad power to award remedies, including damages and both pre-trial and permanent injunctions.³⁴

When infringement litigation proceeds in parallel with an administrative validity challenge, courts may stay the case pending a ruling by the PRAB but are not legally required to do so.³⁵ Because validity proceedings usually take longer than infringement suits, it is possible that a court will find infringement of a patent that is later deemed invalid.³⁶

Judgments from lower courts can be appealed up through the Chinese court system, which consists of four levels: (1) Basic People’s Courts, located in smaller cities and suburbs; (2) Intermediate

et al., *Invalid But Infringed? An Analysis of Germany’s Bifurcated Patent Litigation System 2* (Max Planck Institute for Innovation and Competition Research Paper No. 14-14) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2504507 [<https://perma.cc/4CP3-K578>] (discussing Germany’s bifurcated patent enforcement system).

29. CLARK, *supra* note 1, at 21–22; Yang, *supra* note 20, at 50. SIPO can, however, help the parties mediate a monetary settlement. *Id.* at 22, 25–26. A patentee can also enforce its rights outside of court via the General Administration of Customs (GAC), which has the power to seize infringing imports and exports. CLARK, *supra* note 1, at 27–28; Yang, *supra* note 20, at 51.

30. CLARK, *supra* note 1, at 21.

31. Appeals from PRAB are dealt with by the Beijing First Intermediate Court and can then go to the Beijing Higher People’s Court. *Id.* at 29.

32. *Id.* at 105 (“[O]btaining evidence to prove infringement . . . can be very difficult as the Chinese court system only provides for very limited discovery [and] [t]here is no [automatic] obligation on the parties involved in the litigation to disclose any information . . .”).

33. See Yang, *supra* note 20, at 51 (“The normal term of a first instance [patent] case is six months. In practice, once sued for infringing a patent, the defendant usually launches an invalidation process . . . [that] usually takes one year Therefore, a patent infringement litigation case in China generally takes 18 months.”).

34. CLARK, *supra* note 1, at 97–98, 151–52; see also Cox & Sepetys, *supra* note 20. The Patent Law does not mention declarations of non-infringement as a potential remedy in patent suits, but a 2010 interpretation by the Supreme Court permits declaratory judgment actions when the patentee has sent a demand letter. CLARK, *supra* note 1, at 100–01.

35. CLARK, *supra* note 1, at 102.

36. A similar situation arises often in Germany. See Cremers et al., *supra* note 28, at 3 (estimating that 12 percent of German patent suits result in a finding of infringement of a patent that is later invalidated by the Federal Patent Court).

People's Courts, located in major cities; (3) High People's Courts, located in each province, autonomous region, and directly controlled city; and (4) the Supreme People's Court located in Beijing.³⁷ Patent suits—both infringement suits and appeals from PRAB—generally begin in an Intermediate People's Court, though infringement cases with sufficiently large amounts at stake may be filed in the first instance in a Higher People's Court.³⁸ The Supreme Court, all Higher Courts, and many Intermediate Courts (at least seventy-six to date) have established divisions that specialize in IP cases, including patent suits.³⁹

III. STUDY DESIGN

To learn more about patent litigation in China, we set out to identify a large sample of patent suits litigated in recent years and collect data on the courts, litigants, and patents involved. This Part describes our data collection methodology.

A. Compiling a Database of Patent Suits

Though the number of patent suits filed in China has exploded in recent years, relatively little information about Chinese patent litigation is publicly available. Chinese courts do not regularly digitize filings—let alone make them publicly accessible online—so those interested in collecting litigation data generally must hand-collect hard copy files directly from local courthouses and accumulate them for analysis.⁴⁰

One large collection of Chinese court records is the “China IP Litigation Analysis” (CIELA) database created by the law firm Rouse.⁴¹ This source includes all Chinese IP suits litigated to at least

37. CLARK, *supra* note 1, at 16–17, 85.

38. *Id.* at 94. Patent cases in China must be filed in the jurisdiction of a defendant's residence or where the infringing act occurred. *Id.* at 93. If more than one court has jurisdiction, the patentee can select among them. *Id.*

39. *Id.* at 94.

40. This is beginning to change, however. With certain exceptions, Chinese courts are now generally required to make judgments available online via a database administered by the Supreme People's Court that was upgraded shortly before this Article's publication to allow searches by cause of action and keyword. See Susan Finder, *Supreme People's Court Upgrades its Database*, SUPREME PEOPLE'S COURT MONITOR, Jan. 11, 2016, <http://supremepeoplescourtmonitor.com/2016/01/11/supreme-peoples-court-upgrades-its-database/>. The Supreme People's Court also administers another online database of IP decisions known as “China IPR Judgments and Decisions,” <http://ipr.court.gov.cn/> [<https://perma.cc/A33N-7SK2>] (last accessed March 21, 2016).

41. See CIELA (Aug. 26, 2015), <http://www.ciela.cn/> [<https://perma.cc/87UK-3EMT>]. Darts IP is another well-known commercial source of Chinese court records from IP cases. Darts

one decision issued by one of fifty courts with the most active IP dockets in China, as well as all PRAB challenges proceeding in parallel with those suits.⁴²

To assist in executing this study, Rouse graciously provided access to CIELA data on all IP suits with a decision issued between 2006 and 2011. Of these suits, we were able to identify 471 that included at least one claim for patent infringement.⁴³

B. Litigant- and Patent-Specific Data

For each of these 471 patent suits, we gathered a variety of data relating to the suit's outcome and the parties and patents involved. First, for each suit, we identified all litigating parties.⁴⁴ For each litigating entity, we identified the location of its principal place of business, the industry in which it operates, and whether it is a privately or state-owned entity. We accumulated these firm-level data from a number of sources, including the Chinese Annual Survey of Industrial Enterprises and the Oriana and Qin databases, which contain financial information for over 400,000 companies registered in China.⁴⁵ Finally, for each suit, we identified the case's outcome, including whether the case was appealed and, if so, whether the ruling was affirmed or reversed.

IP, Solutions for You (Mar. 18, 2016), <http://www.darts-ip.com/patents/litigators/solutions-for-you/> [<https://perma.cc/2HFX-F5PN>].

42. *Id.* The database covers the decisions of fifty “major IP courts” across thirty-one cities and twelve provinces. *Id.* To be clear, some suits were appealed to one of these courts, rather than filed there. There is very little publicly available data on Chinese suits that settled without generating at least one court decision. Thus, a limitation of our study is that we cannot observe the quantity or character of settled patent suits. The small amount of data that does exist suggests that, while the majority of Chinese IP cases settle (roughly 65–85 percent), suits involving foreign parties settle at a significantly lower rate. *See* Lan, *supra* note 20, at 13, 24–25 (finding an overall settlement rate of about 74 percent in a sample of 668 patent suits (involving all three kinds of patents), but also that none of the thirty-six published cases involving foreign parties settled); Shanghai No. 2 Intermediate People's Court, *supra* note 18 (reporting that 51.4 percent of IP suits involving foreign parties settled, while the overall settlement rate in IP suits was 62.8 percent); Snyder, *supra* note 20, at 363 (finding that 80 percent of trademark suits involving foreign parties settled compared to 86 percent of suits between domestic litigants).

43. Again, “patent” refers to “invention patent.” *See supra* note 1.

44. Party names were provided to us in Chinese characters, which we translated and transcribed using translation software.

45. Oriana, BUREAU VAN DIJK (Aug. 25, 2015), <http://www.bvdinfo.com/en-gb/our-products/company-information/international-products/oriana> [<https://perma.cc/U529-QGAY>]. Qin is now exclusively available as part of the larger Orbis database. *Id.*

Next, for each patent-in-suit, we identified the patent's priority date,⁴⁶ technology classifications,⁴⁷ and, for patents with international counterparts, the country where the application was initially filed.⁴⁸

IV. FINDINGS

In this Part, we report our findings with respect to patent litigation filed in China by presenting the data broken down by jurisdiction and by the characteristics of the litigants and patents involved in each suit.

A. By Jurisdiction

Viewing the data first across jurisdictions, we observe that Chinese patent litigation varies greatly by city in some respects and yet, in others, is quite consistent. For one, we find that cases are highly concentrated in a small number of jurisdictions (Figure 1).⁴⁹ Beijing alone is home to more than a quarter of all patent suits in our database,⁵⁰ and the majority of cases take place in one of China's three largest cities.⁵¹ As a result, only twenty-two of the fifty most active IP courts issued at least one patent decision per year during the period of our study.

46. As in the United States, the priority date for a Chinese patent is the filing date of the patent's application or of the earliest relevant parent application to which it claims priority. Compare CLARK, *supra* note 1, at 33–34, with 35 U.S.C. § 154(a)(2) (2012).

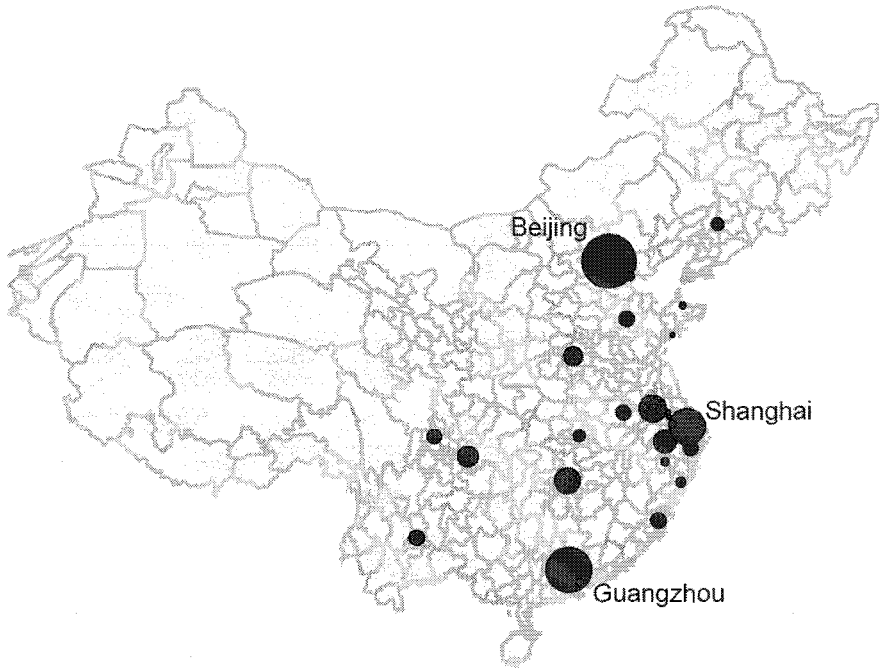
47. Specifically, we identified the patent's International Patent Classification number. See *International Patent Classification (IPC) Official Publication*, WORLD INTELL. PROP. ORG. (Aug. 20, 2015), <http://web2.wipo.int/ipcpub/> [<https://perma.cc/Z7BR-9HCZ>].

48. China has been a member of the Patent Cooperation Treaty (PCT) since 1994. See WORLD INTELL. PROP. ORG., *supra* note 25. Using procedures established by the PCT, a patent applicant can file a first application with a particular patent office and, within one year, file a second "international" application to pursue patent rights in other nations that are PCT members. See MANUAL OF PATENT EXAMINING PROCEDURES § 1842 (9th ed. 2014).

49. The statistics reported for each jurisdiction include all cases in the database that were decided by courts located in that jurisdiction.

50. Not even the infamous US District Court for the Eastern District of Texas can tout this level of concentration during the same time period. *Patent Cases Filed by Year*, LEX MACHINA (Aug. 25, 2015), <https://law.lexmachina.com/court/table#Patent-tab> [<https://perma.cc/C94B-KWQG>] (showing that, between 2005 and mid-2015, the Eastern District of Texas saw about one quarter of all US patent suits filed in the top twenty most popular districts).

51. Again, to be clear, the data does not include settlement data, so we cannot accurately assess how many patent cases were *filed* in these courts. See *supra* note 24.

Figure 1: Case Distribution by Jurisdiction.

Notes: Size of bubbles corresponds to number of cases in each location. The total number of cases displayed is 471. For case counts by location, see Table 1.

Table 1: Case Counts, Appeals, and Outcomes by Jurisdiction.

Rank	Jurisdiction	No. Cases	% Appealed	Final Outcome	
				% Infringed	% Not Infringed
1	Beijing	123	63%	46%	54%
2	Guangzhou	88	84%	56%	44%
3	Shanghai	55	58%	73%	27%
4	Nanjing	31	74%	61%	39%
5	Changsha	28	14%	82%	18%
6	Hangzhou	22	64%	64%	36%
7	Chongqing	18	78%	67%	33%
8	Zhengzhou	15	40%	53%	47%
9	Fuzhou	10	50%	60%	40%
10	Ji'nan	10	90%	40%	60%
11	Kunming	10	40%	80%	20%
12	Chengdu	9	67%	44%	56%
13	Hefei	9	56%	44%	56%
14	Ningbo	9	33%	78%	22%
15	Shenyang	7	0%	43%	57%
	Other	27	19%	63%	37%

Moreover, we find that cases are clustered by technology (Table 2). Each of the three most active jurisdictions sees a disproportionately large share of patent suits involving technologies in one or more industries. The majority of all Chinese patent suits related to both information technology and pharmaceuticals are filed in Beijing. Shanghai is even more specialized, with almost 60 percent of all patent suits related to automotive technology. Similarly, Guangzhou plays host to half of all patent suits related to entertainment technology, a category that includes the toy industry. Patent suits in the United States, by contrast, are not nearly as clustered by industry, due in large measure to permissive venue rules that draw many filings to plaintiff-friendly jurisdictions located far from the geographic areas where industries themselves tend to be grouped.⁵²

52. See Jeanne C. Frommer, *Patentography*, 85 NYU L. REV. 1444, 1449, 1502, 1512, 1514, 1516 (2010) (finding that, among US district courts, none saw more than roughly 15 percent of any one of five broad technology classes and arguing that venue rules should be changed to facilitate the industry-by-industry clustering of US patent suits in order to take advantage of local expertise and court specialization).

Despite this variation, however, three other data points appear relatively constant across courts: success rates, appeal rates, and remedies (Table 1). In eight of the ten courts that issued at least two decisions per year, success rates were between 40 and 70 percent, a smaller spread than that seen among US district courts.⁵³ Similarly, rates of appeal in six of the top seven jurisdictions fall between about 60 and 80 percent, rates that again are roughly similar to those seen in US patent suits.⁵⁴ Moreover, remedies are quite consistent across courts (Table 3). Seven of the top eight jurisdictions have an injunction grant rate of roughly 90 to 100 percent and a median damages award between 80,000 and 150,000 RMB.

53. See Mark A. Lemley, *Where to File Your Patent Case*, 38 AIPLA Q.J. 401, 407–09 (2010) (reporting that patentee win rates in US district courts varied between roughly 56 percent and 12 percent among district with at least twenty-five decisions between 2000 and 2010).

54. See 2014 PATENT LITIGATION STUDY, PRICEWATERHOUSECOOPERS (2014) http://www.pwc.com/en_US/us/forensic-services/publications/assets/2014-patent-litigation-study.pdf [<https://perma.cc/7N6Q-CQWL>] (reporting that between 2007 and 2011 “appeals were lodged in over 70% of reviewed cases that reached an initial conclusion at the district court”).

Table 2: Share of Cases by Industry and Jurisdiction.

Industry	Bei- jing	Chan- gsha	Chon- gong	Gua- ngz- hou	Hang- zhou	Nan- jing	Shan- ghai	Zheng- zhou	Oth- er	Tot Cas- es
No. Cases in Jurisdiction	123	28	18	88	22	31	55	15	91	471
Apparel & Textiles	14%	0%	0%	0%	5%	10%	29%	0%	43%	21
Auto- motive	0%	0%	0%	0%	13%	0%	63%	0%	25%	8
Chemicals & Biotech	18%	3%	3%	15%	0%	12%	12%	18%	21%	34
Enter- tainment	0%	10%	0%	50%	10%	20%	0%	0%	10%	10
Food & Beverage	27%	0%	0%	7%	13%	7%	0%	7%	40%	15
Healthcare	40%	0%	0%	20%	0%	0%	20%	0%	20%	10
IT & Services	57%	0%	7%	14%	0%	0%	7%	0%	14%	14
Manu- facturing & Machinery	24%	8%	5%	23%	5%	6%	11%	3%	17%	320
Others	100%	0%	0%	0%	0%	0%	0%	0%	0%	2
Pharma- ceuticals	59%	4%	4%	4%	0%	7%	4%	0%	19%	27
Publishing & Printing	0%	0%	0%	0%	20%	20%	20%	0%	40%	5
Sports & Recreation	80%	0%	0%	0%	0%	0%	0%	0%	20%	5

Table 3: Remedies Awarded by Jurisdiction.

Jurisdiction	Permanent Injunctions			Damages Awarded		Costs Awarded	
	No. Cases	Requests	Granted	Mean	Median	Mean	Median
Beijing	57	93%	89%	611.2	150	8.7	0.4
Changsha	23	70%	65%	283.2	48	1.8	0
Chongqing	12	100%	100%	366.7	100	0	0
Guangzhou	49	100%	90%	114.2	100	2.6	0
Hangzhou	14	100%	93%	153.0	150	5.6	1.2
Nanjing	19	100%	89%	263.9	95	7.0	0
Shanghai	39	100%	100%	146.0	100	16.2	0
Zhengzhou	8	100%	100%	82.5	50	0	0
Other	53	100%	92%	1241.6	100	2.6	0

Notes: Amounts in RMB 1,000; Remedies data is unavailable for two suits.

B. By Litigant Characteristics

Turning to the litigants in our cases, we find that they are diverse—both geographically and classified by industry—and yet nonetheless fare consistently well in court decisions across these classifications.

First, we find that, while Chinese patent cases are highly concentrated in a small number of cities, litigants themselves are not (Figure 2). Almost half of all litigants accused of infringement hail from outside the largest five jurisdictions, as do the largest share of patentees.

Also, while individual industries tend to cluster in individual courts, litigants as a whole represent a diverse array of market sectors (Table 4). Though companies in the mechanical engineering industry constitute the vast majority of litigants, firms in the pharmaceutical, chemical, and textile industries also make up a sizeable minority.

Figure 2: Litigants Categorized by Origin.

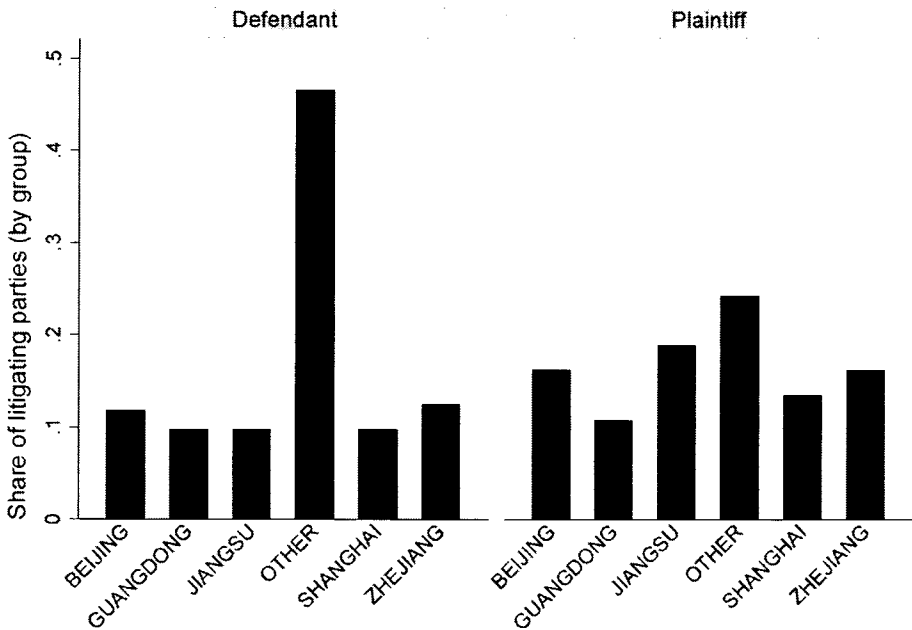


Table 4: Case Distribution by Industry and Owner Type.

Industry	Ownership Type				Total
	HMT	Foreign	Domestic Private	Domestic State	
Apparel & Textiles	0	4	20	0	24
Automotive	0	1	7	1	9
Chemicals & Biotech	0	5	26	0	31
Entertainment	2	3	10	0	15
Food & Beverage	0	2	14	0	16
Healthcare	0	2	10	1	13
IT & Services	0	1	14	0	15
Mechanical Engineering	6	41	307	12	366
Others	0	0	2	0	2
Pharmaceuticals	0	8	26	1	35
Publishing & Printing	0	0	5	0	5
Sports & Recreation	0	0	5	0	5
Total	8	67	446	15	536

Notes: HMT represents Hong Kong, Macao, and Taiwan.

Moreover, we find a substantial number of foreign entities engaged in Chinese patent enforcement (Table 5). Though domestic patentees filed the overwhelming majority of suits in our database, foreign patentees initiated more than 10 percent of cases. In fact, foreign entities appear in the data more often as patentees than accused infringers. Foreign parties filed suit forty-nine times, winning thirty-five of them, and were sued just twenty-nine times. By contrast, state-owned Chinese entities—often singled out as the intended beneficiary of the Chinese protectionism⁵⁵—filed just one suit in our database. State-owned companies were accused of infringement much more often—fourteen times—and lost three of those suits.

Finally, remedies awarded in the suits in the database are surprisingly consistent across litigant types (Table 6). Successful foreign patentees received a median damages award of 100,000 RMB in suits against private Chinese firms, exactly the same amount that private Chinese patentees received when they sued private domestic parties. Interestingly, Chinese patentees received 20 percent less in

55. See CLARK, *supra* note 1, at 5 (“Lawsuits brought against infringers where the alleged infringer is a state-owned enterprise can be especially problematic. State-owned enterprises usually have close relationships with local governments at the place where the enterprises are located.”); MCGREGOR, *supra* note 10, at 4–5.

suits against foreign companies and 60 percent more in suits against state monopolies. Similarly, foreign patentees received a permanent injunction in every case they won, while victorious domestic patentees were denied injunctions 5 to 10 percent of the time.

Table 5: Case Outcomes by Litigant Type.

		Defendant								
		Foreign		Domestic Private		Domestic State-Owned		HMT		
		Infr.	No Infr.	Infr.	No Infr.	Infr.	No Infr.	Infr.	No Infr.	
Plaintiff	Foreign	Infr.	80% (4)		70% (31)		-		-	
		No Infr.		20% (1)		31% (13)		-		-
	Domestic Private	Infr.	67% (16)		57% (224)		27% (3)		-	
		No Infr.		33% (8)		43% (168)		73% (11)		100% (3)
	Domestic State-owned	Infr.	-		100% (1)		-		-	
		No Infr.		-		-		-		-
	HMT	Infr.	-		100% (5)		-		-	
		No Infr.		-		-		-		-

Notes: HMT represents Hong Kong, Macao, and Taiwan.

Table 6: Remedies by Foreign and Domestic Litigants.

		Defendant			
		<i>Foreign</i>			
		Injunction		Damages	
Plaintiff	No. Cases Inf. Found	Requested (Req'd)	Awarded	Req'd	Awarded
<i>Foreign</i>	4	100%	100%	Mean: 262.5 Median: 200	Mean: 112.5 Median: 100
<i>Domestic Private</i>	16	100%	94%	Mean: 1278.13 Median: 475	Mean: 386.94 Median: 80.5
<i>Domestic State-Owned</i>					
<i>HMT</i>			-		
		Defendant			
		<i>Domestic Private</i>			
		Injunction		Damages	
Plaintiff	No. Cases Inf. Found	Requested (Req'd)	Awarded	Req'd	Awarded
<i>Foreign</i>	31	100%	100%	Mean: 1014.51 Median: 250	Mean: 440.94 Median: 100
<i>Domestic Private</i>	222	95%	89%	Mean: 1284.65 Median: 300	Mean: 539.56 Median: 100
<i>Domestic State-Owned</i>	1	100%	100%	Mean: 100 Median: 100	Mean: 100 Median: 100
<i>HMT</i>	5	100%	100%	Mean: 420 Median: 500	Mean: 320 Median: 500

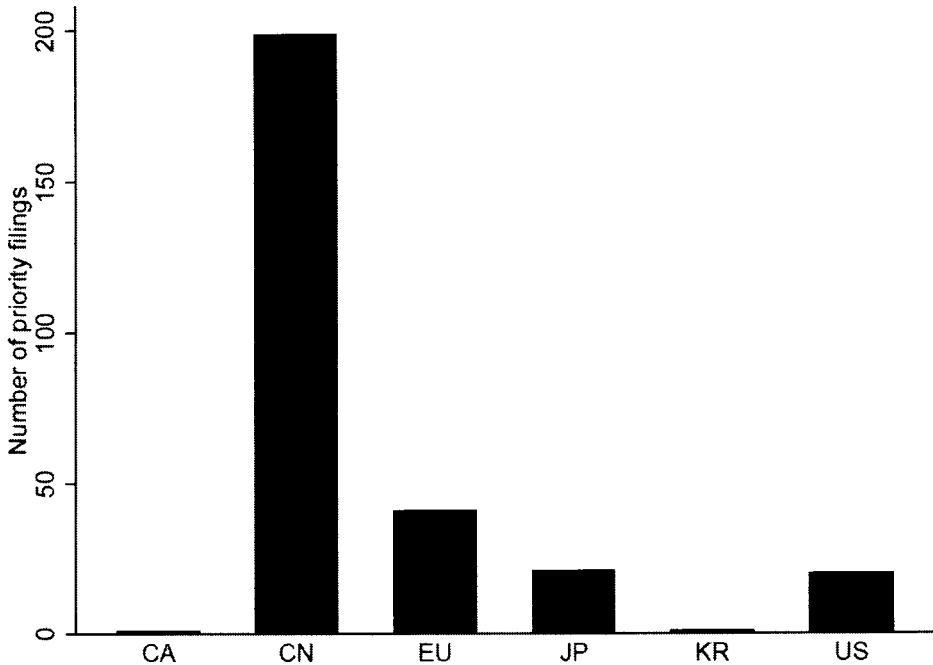
		Defendant			
		<i>Domestic State-Owned</i>			
		Injunction		Damages	
Plaintiff	No. Cases Inf. Found	Requested (Req'd)	Awarded	Req'd	Awarded
<i>Foreign</i>					
<i>Domestic Private</i>	3	67%	67%	Mean: 1299.14 Median: 300	Mean: 119.84 Median: 160
<i>Domestic State-Owned</i>					
<i>HMT</i>					

Note: Amounts in RMB 1,000; Remedies data is unavailable for two suits between private domestic litigants; Infringement was not proven in any of the three suits filed against litigants from Hong Kong, Macao, or Taiwan.

C. By Patent Characteristics

Looking next at the individual patents asserted in our database, we find them to be relatively international in origin, relatively old when asserted, and disproportionately related to mechanical and chemical inventions. In addition, we see that surprisingly few faced a validity challenge.

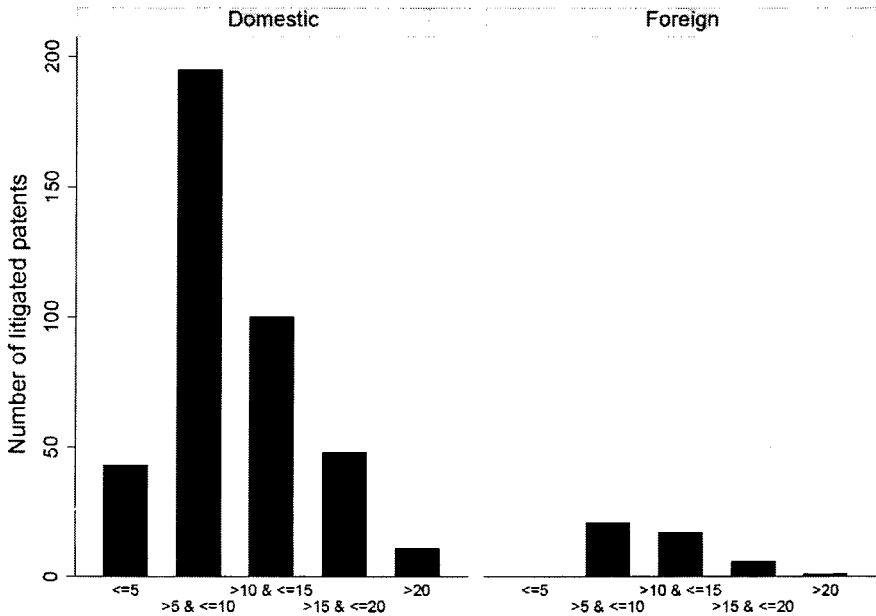
First, almost 30 percent of patents litigated in Chinese courts were issued from applications initially filed in Europe, Japan, or the United States (Figure 3). Another 4 percent, though originally filed in China, were subsequently filed in other countries and have foreign counterparts issued from patent offices located elsewhere in the world.

Figure 3: Priority Filings by Country.

Note: CA: Canada; CN: China; EU: European Union; JP: Japan; KR: Korea; and US: United States.

Also, we observe that litigated patents are, on the whole, roughly middle-aged, with a similar age distribution among patents asserted by both foreign and domestic patentees. Only about 10 percent of patents litigated in Chinese courts were asserted within five years of their priority date (Figure 4).⁵⁶ Approximately 42 percent, by contrast, were filed more than a decade before they were enforced in court.

56. Patent applications pend, on average, between two and three years at SIPO before they are granted. See WORLD INTEL. PROP. ORG., PATENTS 39 (2014), http://www.wipo.int/export/sites/www/ipstats/en/wipi/2014/pdf/wipi_2014_patents.pdf [<https://perma.cc/537G-KNCP>] (showing that patent pendency at SIPO decreased significantly from 2002 to 2010); Mark Liang, *Chinese Patent Quality: Running the Numbers and Possible Remedies*, 11 J. MARSHALL REV. INTEL. PROP. L. 478, 498 (2012).

Figure 4: Patent Age at Time of Litigation.

We additionally find that, consistent with the industry distribution reported above, patents enforced by both foreign and domestic parties mostly cover inventions related to the mechanical and chemical arts. By comparison, US patent suits predominantly involve electrical and computer-related technology.⁵⁷

Lastly, we find that a surprisingly small number of asserted patents faced a parallel validity challenge. Overall, less than 14 percent of patents were challenged in a PRAB proceeding (Table 7). By contrast, virtually every patent asserted in the United States faces a validity challenge in court.⁵⁸ Even relative to other jurisdictions that bifurcate consideration of validity and infringement—a procedural choice correlated with fewer validity challenges—this is a relatively low rate of challenge.⁵⁹

57. See, e.g., Brian J. Love, *An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls Without Harming Innovators?*, 161 U. PA. L. REV. 1309, 1342–44 (2014) (finding that over 40 percent of litigated patent issued in the early 1990s cover “high tech” inventions).

58. See Mark A. Lemely, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1502 (2001) (“Virtually every patent infringement lawsuit includes a claim that the patent is either invalid or unenforceable due to inequitable conduct (or commonly both).”).

59. See Cremers et al., *supra* note 28, at 3 (“[B]ifurcation reduces the likelihood that an alleged infringer challenges a patent’s validity . . . in particular [for] smaller firms”);

Figure 5: Litigated Patents by Technology.

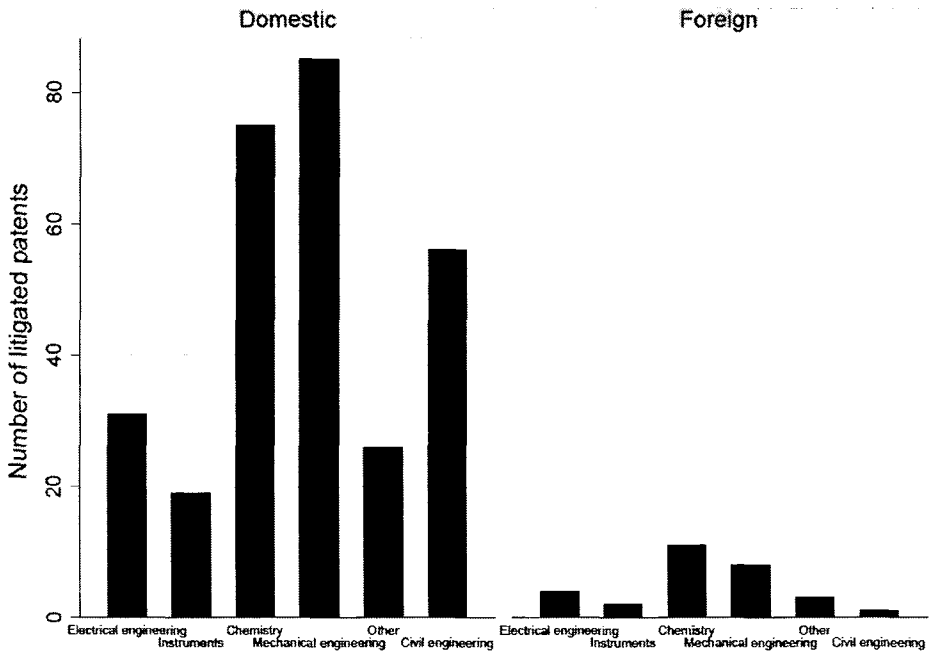


Table 7: Validity Challenges by Nationality of Litigants.

Plaintiff	Validity Challenged by Defendant?							
	Defendant Foreign				Defendant Domestic			
	No		Yes		No		Yes	
	No. cases	%	No. cases	%	No. cases	%	No. cases	%
Foreign	4	80%	1	20%	17	94%	1	6%
Domestic	15	83%	3	17%	162	86%	27	14%

Notes: We were able to obtain data on parallel validity challenged for only 230 cases.

THOMAS COTTER, COMPARATIVE PATENT REMEDIES 362 (2013) (describing the “surprisingly low” rate of PRAB challenges as “something of a puzzle” that “def[ies] easy explanation”).

V. ANALYSIS

Overall, our findings suggest that Chinese patent litigation is not rife with protectionism. To the contrary, they suggest that foreign companies perform as well, if not better, than Chinese firms in patent suits.

First, the case-level data suggests that patent suits are rarely litigated in smaller inland cities where, conventional wisdom holds, protectionism is most often encountered.⁶⁰ For one, our data indicates that patent litigation is overwhelmingly a big-city phenomenon in China and, even among major metropolitan areas, is largely concentrated in just a few of the nation's largest cities. Moreover, even when foreign companies are sued outside large cities, our data suggests that it is relatively easy to move cases to urban jurisdictions using the appeals process.⁶¹ As our findings show, the rate of appeal among Chinese patent suits is high, perhaps because Chinese patent suits are fast enough and cheap enough to make appeal a realistic option for most parties.⁶² Last, large urban jurisdictions, particularly Beijing and Guangzhou, seem to be the overwhelming venues of choice for cases involving pharmaceuticals and information technology—the technologies most often cited as targets of Chinese protectionism.⁶³ Together, these findings suggest that, even if protectionism is common outside large cities, foreign patent litigants are not likely to face suit, let alone a final court decision, in those jurisdictions.⁶⁴

60. See, e.g., CLARK, *supra* note 1, at 4–5 (“In large cities, [protectionism] is usually not a serious concern. In smaller cities, however, the local government will have strong incentives to protect any opposing party that is a large employer of workers, and/or a large source of tax revenue.”); HULSE ET AL., *supra* note 16 (“[T]o the extent possible, IP owners should file civil actions in the highest court possible in areas most experienced in handling infringement cases, such as Beijing for patents or Shanghai for trademarks.”); Bieberbach, *supra* note 10, at 161 (“To avoid local protectionism and have the case handled by an IP experienced court, the choice of the right court is important (Beijing or Shanghai are recommended).”).

61. Consistent with conventional wisdom about the prevalence of bias outside large urban areas, Long and Wang find that Chinese appellate courts are less likely than trial courts to rule in favor of local parties. *Supra* note 18, at 48.

62. Bifurcation of invalidity and infringement likely also creates an incentive for appeal. See Cremers et al., *supra* note 28, at 11 (explaining that the German bifurcated system incentivizes the appeal of infringement findings to delay their finality until the Federal Patent Court can decide the issue of validity).

63. See, e.g., MCGREGOR, *supra* note 10, at 4–5; Rea, *supra* note 11 (pointing to pharmaceuticals in particular).

64. Indeed, even domestic patentees appear to favor urban jurisdictions when filing patent suits. As discussed above in Part IV.A, a large percentage of patent cases litigated in large urban jurisdictions are filed by domestic parties from outside those cities jurisdiction. The fact that these parties very likely could have filed suit in their home jurisdiction, but chose not to, suggests that even Chinese litigants generally prefer large urban jurisdictions to smaller inland ones, despite the supposed benefits of local protectionism.

Second, our observations about litigating parties also tend to suggest that protectionism is not rampant in jurisdictions where patent suits are commonly litigated. Foreign companies are not frequent targets of Chinese patent suits and, to the contrary, most often appear in our data as patent enforcers, not accused infringers. Moreover, when foreign companies litigate to a decision on the merits, they win relatively frequently and are awarded remedies commensurate with those given to domestic patentees. Chinese companies—especially state-owned firms—fare worse on the merits of their cases, both as plaintiffs and defendants, and when they litigate against foreign companies, they actually receive less in damages than they do in suits against domestic infringers.

Finally, the characteristics of litigated patents in our database also tend to cast doubt on the broader Chinese patent system's supposed protectionist tendencies. In a system rife with patents that merely copy already-popular products, one would expect to see a large population of suits asserted newly minted patents filed exclusively in China. But the litigated patents in our data set are, on the whole, relatively old, and many were issued from applications that are part of international patent families. Just a tiny fraction of litigated patents were asserted within five year of their issue date, and close to half were more than a decade old at the time of suit. Moreover, about a third have at least one foreign counterpart, which indicates that these applications disclosed inventions deemed novel by at least one other patent office. In addition, the most common technology class among litigated patents is mechanical engineering, and the most common industry classification among litigants is manufacturing. Electrical engineering ranks fourth out of six patent categories, and information technology ranks sixth on the list of represented industries. Thus, though suits against Apple, Samsung, and Dell grab headlines in the West, it appears that cases involving software and computer technology constitute just a small minority of Chinese patent enforcement.

VI. CONCLUSION

Overall, these findings cast doubt on conventional wisdom among Western companies and commentators about Chinese patent enforcement. While we cannot rule out the existence of blatant protectionism in smaller inland courts from which we could not obtain data, patent suits in those jurisdictions appear to be rare. Moreover, while we cannot observe settlement behavior or correct for other

possible selection effects,⁶⁵ our findings on litigation outcomes bear little evidence of protectionism. Foreign patent owners brought over 10 percent of Chinese patent infringement actions in our database and won over 70 percent of those cases. By contrast, state-owned entities—presumably those the Chinese government has the greatest interest in protecting—filed only one suit in our database and lost three of the fourteen suits filed against them. Lastly, while we cannot rule out a rush to file and enforce shoddy patents in more recent years, our findings cast doubt on claims that this was a regular occurrence prior to 2012. Rather than a land rush to obtain and enforce patent rights in the immediate aftermath of the National IP Strategy's announcement, the vast majority of litigated patents in our database were filed before the National IP Strategy was ever announced, and many of those patents have family members blessed by other nations' patent offices.

Accordingly, our findings tend to suggest that, to the extent Chinese leaders hoped that stimulating the national patent system would result in widespread protectionism, their hopes were misplaced. To the contrary, they appear to have created a system that often benefits foreign interests at the expense of domestic ones and that also generates a good deal of litigation among domestic firms. Technology companies in the United States and elsewhere in the world—particularly those that have long accused China of piracy—may be well advised to give the Chinese patent system a second look.

Ultimately, however, this study is merely a starting point for analysis of Chinese patent litigation and should be viewed as such. We believe that the data presented in this Article is the best empirical information on Chinese patent enforcement made available to date, but we also acknowledge that it is imperfect in several respects. If current trends in China continue, we expect to see the Chinese patent system become more and more important to Western companies, law firms, and policymakers. As demand for reliable information in this

65. For example, it is possible that foreign tech companies, discouraged by conventional wisdom about Chinese courts' supposed protectionist tendencies, bring suit only when their claims are especially strong and, thus, litigate cases that are on average objectively more meritorious than those filed by domestic patentees. It is also possible that foreign companies that are willing and able to file suit in China (as well as those that are worth suing in China) are generally more sophisticated or have deeper pockets than their Chinese counterparts and thus, for example, are able to secure more skilled (or well connected) legal representation. Because we lack the data to accurately measure and correct for these potential effects, we cannot rule out the possibility that the success rates we observe among foreign litigants are, despite their similarity to those of domestic parties, depressed by protectionism and, absent that disadvantage, would be significantly higher.

area increases, we expect data collection efforts to expand as well, and we encourage future scholars to take advantage of this trend and carry out future studies.

