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Sovereign Patent Funds

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INTRODUCTION

In the year 2000, a new patent aggregation business emerged under the name Intellectual Ventures (“IV”). Armed with more than five billion dollars from global companies such as Microsoft, Intel, Sony, Nokia, Apple, Google, Yahoo, American Express, Adobe, SAP, Nvidia, and eBay, IV aggressively acquired patents.¹ Within its first ten years of existence, the privately-held company occupied the enviable spot of being one of the top five U.S. patent owners.² In March 2009, IV expanded its reach globally to Japan, South Korea, Taiwan, China, India, and other countries, hoarding patents in important industries as it opened new offices on foreign soil.³ IV operated with a core belief that “ideas are valuable” which led it to build “the invention capital market.”⁴ As of today, IV owns a portfolio of 70,000 patents and collects more than three billion dollars in licensing fees.⁵ IV, however, is the leader in the category of “a special brand of hatred in the business world as the ultimate patent troll.”⁶

There are other patent aggregators with different business models in the patent market. For example, Acacia Research Corporation is the largest publicly traded patent-licensing company. The corporation is also known as “the mother of all patent trolls.”⁷ It touts that its business model as an intermediary between patent owners and licensees has brought three-quarters of a billion dollars to patent

¹ See, e.g., Robin Feldman & Tom Ewing, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, 44-45 (providing an in-depth study of Intellectual Ventures).

² Dennis Crouch, *Intellectual Ventures: Revealing Investors*, PATENTLY-O (May 18, 2011), <https://patentlyo.com/patent/2011/05/intellectual-ventures-revealing-investors.html> (observing Intellectual Ventures had become one of the top five patent owners with a portfolio of 30,000 patents).

³ Gregory T. Huang, *Nathan Myhrvold & Co. on Tour as Intellectual Ventures Opens Offices Across Asia*, XCONOMY (Oct. 3, 2008), <http://www.xconomy.com/seattle/2008/10/03/nathan-myhrvold-co-on-tour-as-intellectual-ventures-opens-offices-across-asia>.

⁴ *About Us*, INTELLECTUAL VENTURES, <http://www.intellectualventures.com/about> (last visited Feb. 25, 2017).

⁵ Jacob Demmitt, *Intellectual Ventures: 70,000 Patents, \$3 Billion in Licenses, Dozens of Companies Sued*, PUGET SOUND BUS. J. (Feb. 11, 2015, 2:05 PM), <http://www.bizjournals.com/seattle/blog/techflash/2015/02/intellectual-ventures-70-000-patents-3-billion-in.html>.

⁶ Ashlee Vance, *Silicon Valley's Most Hated Patent Troll Stops Suing and Starts Making*, BLOOMBERG (Sept. 4, 2014, 6:23 AM), <https://www.bloomberg.com/news/articles/2014-09-04/intellectual-ventures-patent-troll-funds-startups-new-products>.

⁷ Gene Quinn, *Mother of All Patent Trolls, Acacia Research, Gets More Funding*, IPWATCHDOG (Aug. 10, 2010), <http://www.ipwatchdog.com/2010/08/10/patent-trolls-acacia-research-funding/id=12017/>.

owners.⁸ Allied Security Trust (“AST”), a Delaware Trust, was founded in 2001 to identify, purchase, license, and divest high technology patents.⁹ AST aggregates patents from individual inventors, brokers, firms, and academic institutions.¹⁰ As a member-based cooperative, AST assists its members by helping to purchase patents as part of AST’s divesting solution and by licensing strategic patents to its members.¹¹ Likewise, Google initiated its own patent acquisition, calling on the public to offer up their patents for purchase and then buying up twenty-eight percent of the patents submitted.¹² In May 2016, AST announced the first Industry Patent Purchase Program (“IP3”), an industry-wide, massive patent aggregation backed by Google, Facebook, IBM, Microsoft, Adobe, SAP, Ford, Honda, Hyundai, Kia Motors, Verizon, Cisco, Arris, and many other multinational companies.¹³ IP3 has targeted enterprise software, communications, networking, semiconductors, automotive, content delivery, and cloud computing.¹⁴

Alarmed by the rise of powerful patent aggregators in the United States, governments from other countries have decided to counter with their own initiatives of aggregating patents through the establishment of Sovereign Patent Funds (“SPFs”).¹⁵ In the last few

⁸ Overview, ACACIA RES. CTR., <http://acaciaresearch.com/overview> (last visited Feb. 25, 2017).

⁹ *Company Overview of Allied Security Trust*, BLOOMBERG, <http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=214983336> (last visited Feb. 25, 2017, 9:00 AM).

¹⁰ *Id.*

¹¹ *About Us*, ALLIED SEC. TR., <http://www.ast.com/about-us/asts-mission> (last visited Feb. 25, 2017).

¹² Tam Harbert, *Google Tries to Keep Patents out of the Hands of Trolls*, IEEE SPECTRUM (Oct. 28, 2015, 3:00 PM), <http://spectrum.ieee.org/computing/software/google-tries-to-keep-patents-out-of-the-hands-of-trolls> (reporting that Google paid prices ranging from \$3,000 to \$250,000 per patent).

¹³ *Calling All Patent Owners — Google, IBM, Ford, Cisco and Other Leading Global Companies Want to Buy Your Patents — Through the New IP3 Purchase Program by AST*, PR NEWSWIRE (May 18, 2016, 9:15), <http://www.prnewswire.com/news-releases/calling-all-patent-owners--google-ibm-ford-cisco-and-other-leading-global-companies-want-to-buy-your-patents--through-the-new-ip3-purchase-program-by-ast-300270804.html>.

¹⁴ *Id.*

¹⁵ For example, the director of the Korean Intellectual Property Office informed the media that Korea’s sovereign patent funds were created to help Korean companies protect themselves from “the threats of NPEs that buy patents only to claim royalties.” Miyuki Monroig & Patrick Terroir, *Inside Asia’s Patent Funds*, INTELL. ASSET MGMT., July-Aug. 2012, at 85, 88. The Korean government admitted that it is acquiring patents as part of waging “a patent war.” *Id.*

years, Japan, South Korea, China, Taiwan, and France have each launched SPFs. Other countries, including Canada, ponder whether they should join the trend to create their own SPFs and participate in the patent market.¹⁶

What are SPFs? How are they created and structured? What purposes do SPFs serve? Are SPFs effective initiatives for foreign governments to encourage innovation and foster competition or are they merely state-sponsored patent trolls? Are they violating international trade law, specifically the World Trade Organization (“WTO”) Agreement on Subsidies and Countervailing Measures?

This Article is the first to address the above questions. The Article proceeds as follows. Part I traces the creation of SPFs in Japan, South Korea, Taiwan, China, and France. Part I also explains when, why, and how each country provides public funding to SPFs. There are many different types of SPFs in different technology and life sciences areas, and with specific goals and mandates, although several share the same goal of aggregating patents. Open innovation and patent licensing are two common themes among the different goals and approaches employed by SPFs.

Part II investigates whether SPFs have engaged in patent assertions — attempts to use acquired patents “to generate revenue by asserting them against alleged infringers.”¹⁷ Part II focuses on the simultaneous litigations filed by the French SPF against LG Electronics Corporation and HTC Germany GmbH in Germany and the United States. Likewise, the Asian SPFs have filed lawsuits against multinational companies. The investigation reveals surprises, including that litigation is typically an SPF’s last resort. SPFs are reluctant to embrace litigation. Part II also examines SPFs’ licensing strategies. French and Korean SPFs seem to have success in licensing out. They direct more efforts to selecting quality patents for licensing. In addition, Korean and Japanese SPFs are engaging in licensing for open innovation.

SPFs have been condemned as global patent trolls and state-sponsored patent trolls. Part III addresses whether the pejorative label is warranted. Exploring the popular narrative of patent trolls and the evolving landscape of the patent market where former manufacturing companies and research institutions, along with other non-practicing

¹⁶ Jim Balsillie, *Time to Invest in Better Protections for Canada’s Intellectual Property*, GLOBE & MAIL (July 18, 2014), <http://www.theglobeandmail.com/report-on-business/time-to-invest-in-better-protections-for-canadas-intellectual-property/article19680612>.

¹⁷ FED. TRADE COMM’N, PATENT ASSERTION ENTITY ACTIVITY: AN FTC STUDY 1 (2016) (releasing a comprehensive study of patent assertion entities in October 2016).

enterprises (“NPEs”),¹⁸ are participants, Part III reveals that the SPF label does not fit SPFs’ characteristics. SPFs are both diverse and complex. Some have collaborated with universities to engage in specific research and development projects. Some share their profits with original inventors. Some facilitate open innovation. Some are doing all of the above. Condemning SPFs as patent trolls amounts to dismissing the true innovations, research, and development that have been the hallmarks of many industries and sectors in Japan, South Korea, China, and France.

SPFs have also been condemned as a trade protectionist measure in violation of international trade law. Part IV examines the heavy charges that SPFs discourage international technology transfers, depress innovation, force foreign companies to accept unfavorable license terms akin to discriminatory tax, support domestic industries at the expense of foreign firms, resurrect ailing national companies, and cause a race to the bottom. Part IV found no evidence to support these condemnations. On the contrary, what SPFs have done since their existence refutes these charges.

If SPFs are illegal subsidies in violation of international trade law, there is an appropriate mechanism to remedy the harm. Part V turns to the WTO solution, analyzing relevant provisions of the WTO Agreement on Subsidies and Countervailing Measures. Part V discusses WTO Tribunal decisions, as they illuminate and interpret legal requirements in subsidy cases. Part V further suggests that the international framework is suited to eliminate SPFs if evidence exists that a particular subsidy is causing injury to a domestic industry. Certainly, using the appropriate channel to address SPFs is preferable to dismissive and pejorative labeling.

Part VI, however, posits that an international trade solution might be unnecessary because SPFs may soon be relics of the past. SPFs can easily alter their structure to remove the government-sponsored characteristic to quiet critics and restless nation litigants in the WTO Tribunal. Moreover, the global innovation and patent market is dynamic and complex; SPFs will not be able to survive and flourish if they are under governmental control. Part VI observes that, in fact, some prominent SPFs are planning to privatize in order to compete and adapt.

¹⁸ Non-practicing enterprises are patent owners “who do not manufacture products themselves, including universities, individual inventors, failed businesses, and speculators who purchase patents from others.” David L. Schwartz & Jay P. Kesan, *Analyzing the Role of Non-Practicing Entities in the Patent System*, 99 CORNELL L. REV. 425, 426 (2014).

Overall, by creating and infusing SPFs with public funding to aggregate patents, a government can seem to have ownership and control of the patents while simultaneously wielding authority in dispute proceedings relating to those very same patents. The government can block or rule against others from challenging the validity of patents. The same government may coerce others into accepting unfavorable patent license terms. The same government also may protect domestic firms at the expense of foreign firms. Such an arrangement seems to create many conflicts. Additionally, SPFs may be illegal subsidies under international trade law. Also, the creation of SPFs suggests a new global chaos in patents. The new chaos raises fear that SPFs would cause a race to the bottom. SPFs become sovereign patent trolls with levers more potent than private patent trolls, depressing innovation for short-term gains. The fear about SPFs, however, is exaggerated. These concerns perhaps emanate from the tendency to group all SPFs from different countries into one and characterize them within the convenient patent troll narrative. Fear not, the present and future development of different SPFs should instead prompt us to rethink patents and the very laws creating them.

I. FROM ASIA TO EUROPE: SOVEREIGN PATENT FUNDS

Asian countries with strong tech industry presence, from Japan and South Korea to Taiwan and China, have followed one another in creating sovereign patent funds. These funds are government-owned patent aggregators. Across the globe, France takes the leading role among European countries in creating SPFs. As carefully examined below, each country creates and operates SPFs with different objectives.

A. Japan's INCJ, IP Bridge, and Other SPFs

The Japanese government, through the Ministry of Economy, Trade and Industry, established its sovereign patent fund, the Innovation Network Corporation of Japan ("INCJ"), in July 2009.¹⁹ INCJ has a specific purpose of promoting innovation and enhancing the value of businesses in Japan.²⁰ With the explicit policy of protecting domestic

¹⁹ Overview, INNOVATION NETWORK CORP. JAPAN, <https://www.incj.co.jp/english/about/overview> (last visited Jan. 4, 2018); 2 WORLD ECON. FORUM, *Innovation Network Corporation of Japan*, in MANUFACTURING FOR GROWTH: PARTNERING FOR COMPETITIVENESS 19, 19 (2013), http://www3.weforum.org/docs/WEF_ManufacturingForGrowth_ReportVol2_2013.pdf.

²⁰ See WORLD ECON. FORUM, *supra* note 19.

industries in key innovations, the Japanese government has already injected 286 billion yen, or \$2.5 billion, into INCJ and plans to provide guarantees up to 1,800 billion yen, or \$15.8 billion, for INCJ investments.²¹ Though INCJ has claimed that it is a public-private initiative, private companies provide only five percent of the seed capital.²² According to a recent press release, INCJ has invested 800 billion yen, or \$7 billion, in seventy-nine projects on a broad range of technology areas and has engaged in business development “through intellectual property funds.”²³ INCJ does not confine its activities to Japan; it has “aggressive overseas development” to acquire “cutting-edge core technologies” from foreign companies.²⁴

In September 2010, INCJ launched Japan’s first intellectual property fund, the Life-Science Intellectual Property Platform Fund (“LSIP”), to acquire patents in four areas: biomarkers, stem cells, cancer, and Alzheimer’s disease.²⁵ The LSIP Fund’s missions are to “increas[e] the value of [intellectual property] in universities” and “rais[e] the probability of success by universities . . . in commercializing their advanced technology.”²⁶ Leveraging INCJ’s leading pharmaceutical corporate partners, LSIP licenses the patents to the pharmaceutical companies.²⁷ The LSIP Fund’s activities are wholly managed by the Intellectual Property Strategy Network, Inc.²⁸ INCJ has also been acquiring patents through its “Rising Sun Fund” from universities and public research institutions.²⁹

²¹ Overview, *supra* note 19.

²² See *id.*; WORLD ECON. FORUM, *supra* note 19.

²³ Press Release, Innovation Network Corp. of Japan, INCJ to Invest in Next-Generation DNA Sequencer Development Company, Quantum Biosystems Inc. (Feb. 9, 2015), <http://www.incj.co.jp/PDF/1423210688.en.pdf>.

²⁴ *Id.*

²⁵ Press Release, Innovation Network Corp. of Japan, Establishment of Japan’s First Intellectual Prop. Fund: New Business Will Bundle and License Life-Science Intellectual Property 1 (Aug. 6, 2010), <http://www.incj.co.jp/PDF/1281073862.01.pdf> [hereinafter Establishment of Japan’s IP Fund].

²⁶ OECD, COMMERCIALISING PUBLIC RESEARCH: NEW TRENDS AND STRATEGIES 75 (2013) (explaining the Life Science IP Platform created by INCJ to purchase patents from universities and public research institutions, and bundle the IP for licensing arrangements with others).

²⁷ IP Bundling Service, INTELL. PROP. STRATEGY NETWORK, INC., http://www.ipsn.co.jp/e/index_e.html (last visited Feb. 25, 2017).

²⁸ *Id.*

²⁹ Richard R. Bergovoy, *IP & Licensing Trends in Japan*, LICENSING L. BLOG (Aug. 9, 2010, 7:02 PM), <http://thelicensinglawblog.com/2010/08/ip-licensing-trends-in-japan> [https://web.archive.org/web/20101029222326/http://thelicensinglawblog.com/2010/08/ip-licensing-trends-in-japan].

In addition to life sciences patents, INCJ focuses on other areas. For example, in 2013 INCJ teamed up with two private companies to establish another fund to purchase “idle intellectual property” in technologies relating to mobile phones, LCD panels, and optical disks. With the patent purchases, INCJ then monetizes them through licensing to both domestic and foreign companies.³⁰ Strategically, INCJ wants to turn profits on the investment by creating “attractive bundles of intellectual property” for licensing to both domestic and overseas companies.³¹

Moreover, one of INCJ’s most recent activities was the bidding war between INCJ and a Taiwanese company to acquire Sharp Corporation, a Japanese company once known as the global leader in the display industry.³² From a patent perspective, Sharp’s ownership of a large patent portfolio of 53,670 was a reason INCJ did not want the patents to fall in foreigners’ control.³³ Determined to keep Sharp’s technology in the Japanese economy, INCJ offered to acquire Sharp for one trillion yen, or \$8.8 billion.³⁴

INCJ also created a subsidiary called IP Bridge to further procure and license patents.³⁵ IP Bridge owns a sizable patent portfolio from Panasonic and its affiliates, and by some estimates that acquisition accounts for eighty-three percent of IP Bridge’s patent holdings.³⁶ Also, IP Bridge received 500 patents from Fujitsu.³⁷ IP Bridge takes an

³⁰ *Id.*; see also OECD, *supra* note 26.

³¹ Establishment of Japan’s IP Fund, *supra* note 25, at 2.

³² Takashi Amano & Pavel Alpeyev, *INCJ Said to Argue Its ¥1 Trillion Bid for Sharp Tops Foxconn’s*, JAPAN TIMES (Feb. 9, 2016), <http://www.japantimes.co.jp/news/2016/02/09/business/corporate-business/incj-said-argue-%C2%A51-trillion-bid-sharp-tops-foxconn/#.VsukpkrJhE>.

³³ See *Company Profile: Sharp*, PATSNAP, <http://www.patsnap.com/resources/innovation/sharp-corporation> (last updated July 4, 2017), reporting that as of July 4, 2017, Sharp Corporation “has a total of 53,670 granted patents and 171,567 patent applications distributed into 129,849 patent families. . . . The main technology areas are semiconductor devices; electric solid state devices, pictorial communication and arrangements for the control of the intensity, colour, phase, polarisation or direction of light.”

³⁴ See *id.*; Amano & Alpeyev, *supra* note 32.

³⁵ See *IP Bridge Promotes Open Innovation by Sharing a 3,500-Strong Portfolio of Japanese Intellectual Property*, JAPAN EXTERNAL TRADE ORG., https://www.jetro.go.jp/en/mjcompany/ip_bridge.html (last visited Feb. 25, 2017) [hereinafter JETRO].

³⁶ Jack Ellis, *As Korean, French and Japanese Sovereign Patent Funds Gain Traction, Other Countries Warm Towards the Model*, INTELL. ASSET MGMT.: BLOG (July 25, 2016), <http://www.iam-media.com/blog/detail.aspx?g=6a644cb6-2a44-446b-b520-114e55a9ef7f>.

³⁷ Jack Ellis, *Fujitsu Revealed as Major Corporate that Assigned 500 Assets to Sovereign Patent Fund IP Bridge*, INTELL. ASSET MGMT.: BLOG (July 20, 2015), <http://www.iam-media.com/blog/detail.aspx?g=75ba041f-410e-4d62-a27b-d5d95f6bcf4d>.

active role in enforcing the patents that it has aggregated. Its business model is based on a firm stance against free-riders by forcing them to pay a “license fee” of which IP Bridge would keep half of the amount and return the remainder to the original patent owners.³⁸ Interestingly, IP Bridge believes that Japan is not yet an open innovation society.³⁹ To rectify the systemic problem, IP Bridge claims that its initial goals and activities are also helping Japan in promoting an open innovation society.⁴⁰

*B. South Korea’s Intellectual Discovery, IP Cube Partners, and KDB
Infra IP Capital*

The South Korean government is openly advancing its goal in patent aggregation and market investments.⁴¹ In 2010, the South Korean Ministry of Economics established a sovereign patent fund, Intellectual Discovery (“ID”).⁴² The government provided \$140 million to ID, and private companies also invested, albeit modestly, in the fund.⁴³ Between 2011 and 2013, ID received an additional \$250 million from both the government and private sectors.⁴⁴ Taking an unapologetically aggressive stance, ID seeks to acquire and monetize intellectual property. Presently, ID touts that it has a portfolio of 3,800 patents and has engaged in worldwide transactions of more than 5,000 patents.⁴⁵ Mining intellectual property from universities and others, specializing in intellectual property dispute resolutions, and providing intellectual property licenses, ID claims that it is Asia’s oldest intellectual property investment company and the leading intellectual

³⁸ See JETRO, *supra* note 35.

³⁹ See *id.*

⁴⁰ See *id.*

⁴¹ See Monroig & Terroir, *supra* note 15, at 87-89.

⁴² *Id.* at 88; WARREN CLARKE & JAMES W. HINTON, DEEP CENTRE, MOBILIZING NATIONAL INNOVATION ASSETS: UNDERSTANDING THE ROLE OF SOVEREIGN PATENT FUNDS 5 (2016), http://deepcentre.com/wordpress/wp-content/uploads/2016/06/DEEPCENTRE_MOBILIZING_NATIONAL_INNOVATION_ASSETS_MAY2016.pdf.

⁴³ Dan Levine & Miyoung Kim, *Insight: Nation-States Enter Contentious Patent-Buying Business*, REUTERS (Mar. 19, 2013, 11:54 PM), <https://www.reuters.com/article/us-patents-nations-insight/insight-nation-states-enter-contentious-patent-buying-business-idusbre92j07b20130320>.

⁴⁴ Joff Wild, *Korean Patent Fund Aims for \$350 Million War Chest with Goal of Becoming a Global Player*, INTELL. ASSET. MGMT.: BLOG (Dec. 1, 2013), <http://www.iam-media.com/blog/detail.aspx?g=471904ea-c963-4315-b914-6cb600e1afe9>.

⁴⁵ *About ID*, INTELL. DISCOVERY, <http://i-discovery.com/site/en/overview/aboutid.jsp> (last visited Feb. 25, 2017).

property monetization company.⁴⁶ Currently, ID and its affiliates are managing more than \$500 million in transactions based on its arsenal patent portfolio.⁴⁷ With global market presence and ambition, ID hoards patents issued beyond Korea's borders. Indeed, more than eighty percent of the patents assigned to ID are in the United States.⁴⁸ These U.S. patents, however, are originally owned by Korean entities.⁴⁹ Also, ID's patents concentrate in areas of significance to "main industry technology sectors," such as "mobile communication, semiconductor, network, energy, [and] smart vehicle," among others.

In addition to ID, the Korean government has created a smaller patent fund called IP Cube Partners based on the initiative championed by the Korean Intellectual Property Office.⁵⁰ Both patent capital funds are the brainchild of the Korean government's policy of "A Strategy for the Realisation of a Strong Country in IP."⁵¹ Ironically, Korea's SPFs came into existence because the government was witnessing the global "patent war" of which Korean companies were forced to become active participants, and the government could no longer linger on the sidelines.⁵²

Apparently, the two SPFs are not sufficient in meeting Korea's hunger for patents in the global "patent war" as perceived by the government. In 2015, two state-owned Korean Banks, the Korea Development Bank and Industrial Bank of Korea, launched KDB Infra IP Capital with startup capital of \$89 million.⁵³ After its creation, the new Korean SPF began to aggregate patents in the video coding technology that was previously owned by the Korean Telecom, KT Corporation.⁵⁴ The patent acquisition in 2016 marks the beginning of that fund's monetization as a licensor in the video coding standard MPEG LA's HEVC.⁵⁵

⁴⁶ *Id.*; *What We Do*, INTELL. DISCOVERY, <http://i-discovery.com/site/en/overview/whatwedo.jsp> (last visited Feb. 25, 2017).

⁴⁷ *About ID*, *supra* note 45.

⁴⁸ CLARKE & HINTON, *supra* note 42, at 5 (analyzing the origins of patents owned by Intellectual Discovery).

⁴⁹ *Id.* at 6.

⁵⁰ Monroig & Terroir, *supra* note 15, at 88.

⁵¹ *See id.*

⁵² *See id.* at 87-88.

⁵³ Jacob Schindler, *New Korean Sovereign Patent Fund Makes Its First Move with Telecom Patent Investment*, INTELL. ASSET MGMT.: BLOG (Mar. 25, 2016), <http://www.iam-media.com/Blog/detail.aspx?g=43ceb723-9071-4ecf-b6c4-c608e3838e09>.

⁵⁴ *Id.*

⁵⁵ *Id.* MPEG LA's HEVC is a patent portfolio license that "provides [licensees] access to essential patent rights for the HEVC digital video coding standard" for

C. Taiwan's ITRI, MedTech Fund, and IP Bank

The Taiwan Ministry of the Economy announced in April 2011 the launch of a national intellectual property initiative to support Taiwanese companies in the intellectual property market.⁵⁶ In August 2011, the government promptly created its first sovereign patent fund, the Taiwan Medtech Fund, to upgrade and invest in the biotech industry. Specifically, the fund focuses on financing the development and commercialization of biomedical devices, equipment, and pharmaceutical related production.⁵⁷ Three months later, IP Bank-Taiwan was created by the Industrial Technology Research Institute ("ITRI"), the largest semi-public research center in Taiwan.⁵⁸

ITRI traces its origin back to 1973 when the Taiwanese government was determined to assist Taiwanese industries with staying competitive and sustainable.⁵⁹ ITRI plays a "vital role" in transforming Taiwan into a high-tech powerhouse.⁶⁰ Indeed, a closer look at ITRI reveals how Taiwan has successfully commercialized the results of its sponsored research. A study of ITRI conducted by several researchers⁶¹ showed that Taiwan has effectuated "the common policy goal of stimulating the commercialization of innovation by incentivizing university research."⁶² Specifically, ITRI's Innovation Campus serves as an important platform for industry-academia collaboration, allowing researchers, industry professionals, and students to engage in "interdisciplinary R&D projects" relating to four different themes: "Intelligent Hospital Lighting System, Advanced

"increased speed and efficiency in products that encode and decode video for Internet, television and mobile transmission, reception and use." *HEVC Introduction*, MPEG LA, <http://www.mpegla.com/main/programs/HEVC/Pages/Intro.aspx> (last visited Feb. 26, 2017). The technology also promises "to deliver next generation higher resolution HDTV video displays for 4K and 8K Ultra High Definition." *Id.*

⁵⁶ Monroig & Terroir, *supra* note 15, at 90.

⁵⁷ *Talk of the Day — Taiwan Medtech Fund Draws Keen Interest*, FOCUS TAIWAN (Aug. 17, 2011, 11:08 PM), <http://focustaiwan.tw/news/atod/201108170045.aspx>.

⁵⁸ Monroig & Terroir, *supra* note 15, at 89.

⁵⁹ *See About Us*, INDUS. TECH. RES. INST., <https://www.itri.org.tw/eng/Content/Messagess/contents.aspx?SiteID=1&MmmID=617731521661672477> (last visited Feb. 26, 2017) [hereinafter *About Us*, ITRI].

⁶⁰ *Id.*

⁶¹ Paul C.B. Liu et al., *Successful Factors for Commercializing the Results of Research and Development in Emerging Economies — a Preliminary Study of ITRI in Taiwan*, in PERSPECTIVES ON COMMERCIALIZING INNOVATION 549, 549-59 (F. Scott Kieff & Troy A. Paredes eds., 2011).

⁶² F. Scott Kieff & Troy A. Paredes, *Introduction*, in PERSPECTIVES ON COMMERCIALIZING INNOVATION 5 (F. Scott Kieff & Troy A. Paredes eds., 2012).

Minimally Invasive Surgery System, Intelligent Vision System, and Automated Driving Vehicle System.”⁶³ ITRI emphasizes that its platform aims “to explore emerging technologies and accelerate economy transformation.”⁶⁴ ITRI prizes its successes, including the Thomson Reuters Top 100 Global Innovator award bestowed to ITRI in 2014.⁶⁵

With respect to IP Bank-Taiwan, ITRI is the originator of the bank. Consistent with the SPF’s strategies, the bank aims to provide funding to defend domestic companies in international patent infringement litigation, to prevent foreign global companies from acquiring critical patent technologies, and to assist private companies in aggregating patents needed for international competition.⁶⁶

Strategically, ITRI has been involved in many technology transfers, spin-outs, and start-ups.⁶⁷ By some reports, ITRI has lately embarked in a different direction, as it has accumulated a significantly large portfolio of 19,000 patents.⁶⁸ Recently, with the massive patent arsenal, ITRI has brought patent infringement suits against LG Corporation and other companies in the Eastern District of Texas.⁶⁹ Notably, in the suit against LG, the court noted that “ITRI did not

⁶³ *ITRI Innovation Campus Built to Strengthen Academia-Industry Tie*, INDUS. TECH. RES. INST. (Feb. 2, 2016), <https://www.itri.org.tw/eng/Content/NewsLetter/contents.aspx?&SiteID=1&MmmID=617731531241750114&SSize=10&SYear=2016&Keyword=&MSID=707251145776763010>.

⁶⁴ *Id.*

⁶⁵ *See About Us*, ITRI, *supra* note 59.

⁶⁶ Monroig & Terroir, *supra* note 15, at 90.

⁶⁷ Joff Wild, *The Truth About a “Foreign Troll”; Qualcomm Double Whammy; Top Deal-Making Tips; and Much More on IPBC Asia 2014 Day Three*, INTELL. ASSET MGMT.: BLOG (Dec. 9, 2014), <http://www.iam-media.com/Blog/Detail.aspx?g=d312aa08-3a57-4149-afe8-655e9d7503b8> (reporting that in 2013, “ITRI was involved in 681 tech transfer deals and was behind 244 spin-outs and start-ups”).

⁶⁸ Bill Gerber, *Congress Must Protect CT Biz from Gov’t-Sponsored Patent Trolls*, HARTFORD BUS. (Dec. 15, 2014), <http://www.hartfordbusiness.com/article/20141215/printedition/312129956>; Howard Williams, *The U.S. Supreme Court Hopes to Limit Patent Trolling*, FORBES (Aug. 4, 2014, 2:36 PM), <http://www.forbes.com/sites/realspin/2014/08/04/the-u-s-supreme-court-hopes-to-limit-patent-trolling/#5129f9bc5c62> (stating that ITRI’s patent portfolio contains just under 19,000 patents).

⁶⁹ Curt Bramble, *Patent Trolls Spell Trouble for America’s Economy*, REUTERS (Nov. 18, 2013), <http://blogs.reuters.com/great-debate/2013/11/18/patent-trolls-spell-trouble-for-americas-economy> (stating that “ITRI has asserted more than 20 patents in the Eastern District of Texas U.S. District Court”); Patrick Rosenstiel, *Patent Trolls Must Be Addressed in Trade Talks*, MINNPOST (July 8, 2015), <https://www.minnpost.com/community-voices/2015/07/patent-trolls-must-be-addressed-trade-talks> (raising concerns about ITRI and its litigation against LG).

have any real business presence in the United States.”⁷⁰ Consequently, ITRI has been attacked as a global patent troll in the United States.⁷¹ On the other hand, ITRI has earned praise for its role as a public research institute in “the latecomer country” adeptly evolving from “a facilitator in the catching up phase,” from the 1970s to 1990s, “to become a mediator” in the global patent and innovation market since the 2000s.⁷²

D. *China’s Ruichuan IPR Funds, Beijing Key Industry IP Operations Fund, and Sichuan IP Operations Fund*

As a latecomer to intellectual property law, China has quickly erased its old piracy standing.⁷³ The government has implemented many national policies to modernize intellectual property laws and focus on innovation.⁷⁴ In 2014, China stoked fear in the patent market by establishing the Ruichuan IPR Funds.⁷⁵ Some reported that China has funneled an impressive sum of \$50 billion to Ruichuan.⁷⁶ Ruichuan

⁷⁰ Rosenstiel, *supra* note 69.

⁷¹ *See id.*

⁷² Jyh-Wen Shiu et al., *The Dynamic Effect of Knowledge Capitals in the Public Research Institute: Insights from Patenting Analysis of ITRI (Taiwan) and ETRI (Korea)*, 98 SCIENTOMETRICS 2051, 2051 (2014).

⁷³ China’s attitude towards intellectual property has changed significantly in recent years. In fact, China has already become the number one nation in trademark registrations, as its economy today is the second largest. *See* Xuan-Thao Nguyen, *The World’s Trademark Powerhouse: A Critique of China’s New Trademark Law*, 40 SEATTLE U. L. REV. 901, 904 (2017). Additionally, China has asserted its new global power by formulating and dictating new trade agreements with less-developed countries. *See, e.g.*, Peter K. Yu, *Sinic Trade Agreements*, 44 UC DAVIS L. REV. 953, 956-61 (2011).

⁷⁴ Daniel A. Filstrup, *China’s Patent Subsidies and the U.S. Response*, 42 AIPLA Q.J. 605, 609 (2014) (discussing China’s innovation goals of having “two million annual patent filings by 2015 and to quadruple the number of Chinese-origin patent applications filing abroad by 2020”); Peter Swire & Kenesa Ahmad, *Encryption and Globalization*, 13 COLUM. SCI. & TECH. L. REV. 416, 445 (discussing China’s promotion of “Indigenous Innovation” and “National Medium and Long-Term Plan for the Development of Science and Technology (2006–2020)”).

⁷⁵ Zoe Bollinger, *Rising Powers in Chinese IP: A Look at Ruichuan IPR Funds*, LINKEDIN (Apr. 22, 2015), <https://www.linkedin.com/pulse/rising-powers-chinese-ip-look-ruichuan-ipr-funds-zoe-bollinger>; Peter Roff, *The Frightening Emergence of Government Patent Trolls*, WASH. TIMES (Aug. 31, 2014), <http://www.washingtontimes.com/news/2014/aug/31/roff-the-frightening-emergence-of-government-paten> (commenting that the Chinese government’s Ruichuan IPR Fund represents a new effort to “acquire the intellectual capital of American companies . . . to eliminate its competitors”).

⁷⁶ William J. Watkins, Jr., *China Declares War on U.S. Intellectual Property, Gets into the Patent Trolling Business*, DAILY CALLER (Oct. 8, 2014, 11:13 AM), <http://dailycaller.com/2014/10/08/china-declares-war-on-u-s-intellectual-property->

uses the sum to acquire patents. Some commentators warn that Ruichuan's patent portfolio will be massive and the patents will be used in infringement actions against U.S. companies and others.⁷⁷

Ruichuan has stated that its patent acquisition is for defensive purposes to protect Chinese companies. That means Ruichuan will engage in investments in third party R&D and collaboration with universities and research institutions to acquire intellectual property.⁷⁸ But with the build-up patent portfolio, Ruichuan is no doubt positioning itself in a key role to potentially block foreign companies from entering the Chinese market, as many continue to fear.⁷⁹

In practice, Ruichuan is aggressive in protecting Chinese domestic companies, such as the mobile phone manufacturer Xiaomi, the electronic appliances manufacturer TCL, the software company Kingsoft, and others, by helping them "pave their way into overseas markets."⁸⁰ Ruichuan also builds up its patent holding through direct investment in third party research and development.⁸¹ Moreover, Ruichuan relies on patent brokers, including China Technology Exchange ("CTEX"), to facilitate its efforts in patent acquisitions in the areas of smart devices and mobile internet.⁸² Ironically, despite being a public SPF, in executing its patent fund goals Ruichuan has hired several former executives from Intellectual Ventures to be on Ruichuan's management team.⁸³

Two years after the creation of Ruichuan, the Chinese Central government and provincial governments jointly created and funded two new SPFs: the Beijing Key Industry IP Operations Fund and the Sichuan IP Operations Fund.⁸⁴ The two funds received 1.7 billion

gets-into-the-patent-trolling-business.

⁷⁷ *Id.*

⁷⁸ Bollinger, *supra* note 75.

⁷⁹ *Id.*

⁸⁰ Jack Ellis, *Inside the Multi-Million Dollar Chinese Patent Buying Fund with IV Connections*, INTELL. ASSET MGMT.: BLOG (June 19, 2014), <http://www.iam-media.com/Blog/Detail.aspx?g=48293ab7-eb17-423b-8cc3-fbdac475e943&v=1369394997> (quoting an intellectual property executive at a Chinese corporation regarding Ruichuan's defensive objective).

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.* ("The entity's general manager is Lin Peng, a former executive director of patent licensing at Intellectual Ventures who has also held roles at Microsoft and Cargill, among others. Lin is also president and chief operating officer at Zhigu IP, the firm that is behind the creation of Ruichuan. Zhigu's chairman is Zhang Hongjiang, who is also CEO of internet business Kingsoft. (It is also worth noting that the head of IP at Xiaomi, Zhang Liang, is another IV alumnus.)")

⁸⁴ *China Launches Intellectual Property Operations Funds*, CCPIT PAT. &

yuan, or \$245 million, to focus on intellectual property services to key industrial enterprises.⁸⁵ Their goals are to cultivate companies with strong patent prospects, engage in foreign patent infringement litigation and defensive acquisition, and invest in patent navigation.⁸⁶

E. *France's Fonds Souverain de la Propriété Intellectuelle and France Brevets*

Asian countries are not the only nations with sovereign patent funds in the hyperbolically-branded global patent war. Across the continent, the French government studied the patent and innovation market, then announced the creation of a sovereign patent fund called Fonds Souverain de la Propriété Intellectuelle ("FSPI").⁸⁷ France provided 100 million euro to fund FSPI.⁸⁸ With these resources, FSPI will operate the fund with its main objective of "acquiring rights on blocking patents" to defend domestic companies from patent lawsuits.⁸⁹ FSPI, however, is not the only type of SPF created by the French government.

The first SPF was France Brevets,⁹⁰ created in September 2010 with purposes to acquire patent rights from public and private sources, to license the patents, and to increase the intellectual property income to the original patent owner.⁹¹ In naming the fund "France Brevets," which literally means "France Patents," the government openly implemented its patent aggregation policy under the rubric of innovation.⁹² The government believes that the patent portfolio is a

TRADEMARK L. OFF. (Jan. 17, 2016), <http://www.ccpit-patent.com.cn/node/2888>.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ See Jean-Christophe Rolland & Philippe Kohn, *France: New Sovereign Patent Fund*, MANAGING INTELL. PROP. (Jan. 26, 2015), <http://www.managingip.com/Article/3421356/France-New-sovereign-patent-fund.html>.

⁸⁸ See *id.*

⁸⁹ *Id.*

⁹⁰ See Agence du Patrimoine Immatériel de l'État, *Création de France Brevets*, LE PORTAIL DE L'ÉCONOMIE, DES FINANCES, DE L'ACTION ET DES COMPTES PUBLICS (Jan. 20, 2012), <https://www.economie.gouv.fr/apie/creation-france-brevets>.

⁹¹ *Hedge Funds and Sovereign Wealth Funds Emerge as New Players Entering Intellectual Property Market*, HEDGEWEEK (Dec. 15, 2015, 3:22 PM), <http://www.hedgeweek.com/2015/12/15/234806/hedge-funds-and-sovereign-wealth-funds-emerge-new-players-entering-intellectual-pr> (discussing sovereign patent funds, including France Brevets, as an IP business model).

⁹² See Michael J. Meurer & James Bessen, *Congress Needs to Rein in Patent Trolls*, BOS. GLOBE (Nov. 5, 2014), http://www.bostonglobe.com/opinion/2014/11/04/congress-needs-rein-patent-trolls/BSuITBqcU11mtYlrqSK6yO/story.html?comments=all&sort=highest_

reflection of French innovation from a wide range of industries that others must pay a fee to use. Since its creation, the fund has produced “significant results in licensing out initiatives.”⁹³ Through its aggressive approach, France Brevets has forced international companies to pay hefty license fees for the use of its patents.

II. SPF PATENT LITIGATION AND LICENSING CAMPAIGN

Among the SPFs, France Brevets has emerged as the aggressive leader in monetizing patents through a well-coordinated patent litigation and licensing campaign. Though Korea and Japan’s SPFs have been mentioned as involved in patent litigation, their efforts, however, are timid compared to France Brevets.⁹⁴

With expert assistance, France Brevets has simultaneously engaged in patent litigation in Germany and the United States.⁹⁵ According to a declaratory judgment complaint filed in the Northern District of California, France Brevets has an alter-ego called NFCT, a Delaware limited liability corporation, created solely for the purpose of litigating patent cases.⁹⁶ NFCT has no other assets, except the patents that it has received through a special arrangement from INSIDE Secure, the original owner of the two patents.⁹⁷ INSIDE Secure is one of French’s leading technology companies, owning the valuable near field communication (“NFC”) patents.⁹⁸ The company teamed up with France Brevets for a licensing arrangement wherein France Brevets exploits the NFC patents and shares the royalties with INSIDE Secure.⁹⁹

rating (expressing concerns about France Brevets functioning like a patent troll); FR. BREVETS, <http://www.francebrevets.com/en> (last visited Feb. 25, 2018).

⁹³ Rolland & Kohn, *supra* note 87.

⁹⁴ See Jack Ellis, *Patents Linked to South Korea’s Intellectual Discovery Asserted in Eastern Texas Litigation*, INTELL. ASSET MGMT.: BLOG (Oct. 26, 2015), <http://www.iam-media.com/blog/detail.aspx?g=e5c2b3e8-3c40-4d9d-836d-6becd30ff516> [hereinafter *Patents Linked to Intellectual Discovery*].

⁹⁵ Joff Wild, *France Brevets Success in Germany Shows Just How Wrong Bessen and Meurer Are*, INTELL. ASSET MGMT.: BLOG (Apr. 5, 2015), <http://www.iam-media.com/blog/detail.aspx?g=bcf19422-6ee9-45d4-965b-b2e3979bc4e6> (discussing France Brevets’s litigation strategies in Germany and the United States).

⁹⁶ Complaint for Declaratory Judgment at 2, *NXP Semiconductors USA, Inc. v. Fr. Brevets, S.A.S.*, No. C 14-1225 SI (N.D. Cal. Sept. 15, 2014), 2014 WL 4621017, at *1.

⁹⁷ *Id.* at 2-3.

⁹⁸ Nick Flaherty, *INSIDE Secure in NFC Patent Licensing Deal with France Brevets*, EENews EUR. (June 21, 2012), <http://www.eenewseurope.com/news/inside-secure-nfc-patent-licensing-deal-france-brevets>.

⁹⁹ *Id.*

France Brevets acquired the worldwide patent rights from INSIDE Secure in order to wage the “near field communication patent licensing program” in June 2013.¹⁰⁰ With respect to the United States, the patent agreement between France Brevets and INSIDE Secure was recorded with the United States Patent and Trademark Office on October 1, 2013.¹⁰¹ The following month, France Brevets formed NFC Technology (“NFCT”) in Delaware with its principal office in Marshall, Texas,¹⁰² a known birthplace of the famed “rocket-docket” Eastern District of Texas.¹⁰³ The selection of the forum known for patent litigation is consistent with the campaign to monetize patents. France Brevets also became the sole manager of NFCT and its litigation efforts.¹⁰⁴ Not surprisingly, Jean Charles Hourcade serves as both the CEO of NFCT and the Managing Director of France Brevets.¹⁰⁵ With the structure in place, France Brevets facilitated INSIDE Secure to assign additional patent rights directly to NFCT in November 2013.¹⁰⁶

With these patent rights in hand, France Brevets initiated its licensing campaign. One of its tactics is to approach customers of alleged infringers about the licensing and enforcement of France Brevets and NFCT patents obtained from INSIDE Secure.¹⁰⁷ France Brevets typically includes patent claim charts of infringement in its licensing approach.¹⁰⁸ In addition to the United States, France Brevets has approached others for licensing in Europe.¹⁰⁹ When entities in the United States and Europe refuse France Brevets’s licensing efforts, the SPF follows with lawsuits in multiple jurisdictions and nations on the same date.

For example, on December 5, 2013, France Brevets filed claims against LG Electronics, Deutschland GmbH, and HTC Germany GmbH in Dusseldorf, Germany, for infringement of patents that are

¹⁰⁰ Complaint for Declaratory Judgment, *supra* note 96, at 4.

¹⁰¹ *Id.* at 4.

¹⁰² *Id.* at 2, 4.

¹⁰³ See, e.g., Brian J. Love & James Yoon, *Predictably Expensive: A Critical Look at Patent Litigation in the Eastern District of Texas*, 20 STAN. TECH. L. REV. 1 (2017); Xuan-Thao Nguyen, *Justice Scalia’s “Renegade Jurisdiction”: Lessons for Patent Law Reform*, 83 TUL. L. REV. 111 (2008).

¹⁰⁴ Complaint for Declaratory Judgment, *supra* note 96, at 5.

¹⁰⁵ *Id.*

¹⁰⁶ See *id.*

¹⁰⁷ *Id.* at 5-6.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

the European counterpart of the U.S. patents.¹¹⁰ On the same date, across the Atlantic, NFCT filed claims against LG Electronics USA, Inc., LG Electronics Mobilecomm, and HTC America, Inc. for infringements of the same patents in the Eastern District of Texas.¹¹¹ Four days later, France Brevets announced in its press release that it had filed patent infringement suits against LG and HTC in both the United States and Germany.¹¹² Because LG and HTC are customers of NXP, NXP then filed a declaratory judgment action of noninfringement and invalidity against France Brevets in the Northern District of California.¹¹³

Eight months later, in August 2014, LG agreed to pay a worldwide royalty for a license to use France Brevets's near field communication patent in LG Electronics's smartphone products.¹¹⁴ The LG license was a very important victory for France Brevets's licensing program, marking the SPF's first global patent licensing success. France Brevets became emboldened in its focused efforts on monetizing patents at a global level.

Subsequently, in April 2016, France Brevets reached additional licensing milestones by getting Sony to agree to a worldwide royalty-bearing license to use the near field communication patents in Sony's products.¹¹⁵ Also, in December 2016, Sanofi-Aventis agreed to enter into a royalty-bearing license for using France Brevets patents relating to Air Flow in Sanofi-Aventis's ventilation systems.¹¹⁶

On the litigation front, France Brevets scored a victory against HTC in early 2016. The German Federal Patent Court (Bundespatentgericht) in Munich ruled in France Brevets's favor on the validity of the asserted patents.¹¹⁷

¹¹⁰ *Id.* at 6.

¹¹¹ *Id.*

¹¹² *Id.* at 7.

¹¹³ *Id.* at 1, 6.

¹¹⁴ *France Brevets Licenses NFC Patents to LG Electronics as Its First Licensee*, FR. BREVETS (Aug. 18, 2014), http://www.francebrevets.com/sites/default/files/FB_signs_LGE_RELEASE_18TH%20AUGUST.pdf.

¹¹⁵ *France Brevet Licenses NFC Patents to Sony*, FR. BREVETS (Apr. 4, 2016), http://www.francebrevets.com/sites/default/files/France%20Brevet%20Licenses%20NFC%20Patents%20to%20Sony_eng.pdf.

¹¹⁶ *Sanofi-Aventis Deutschland GmbH Enters AIR FLOW Patent Licensing Program*, FR. BREVETS (Dec. 21, 2016), http://www.francebrevets.com/sites/default/files/SANOFI_LICENCE-PR.pdf.

¹¹⁷ *Court Decision on Validity Against HTC in Germany in the NFC Patent Disputes with France Brevets*, FR. BREVETS (Jan. 22, 2016), http://www.francebrevets.com/sites/default/files/RELEASE_JAN%2022%202016_FRANCE_BREVETS.pdf.

What France Brevets has achieved with its patent assertions and licensing is carefully watched by other SPFs. France Brevets's 2014 victory in patent assertion, resulting in LG global licensing payments, was widely reported.¹¹⁸ By 2015, Japan's SPF decided to no longer sit on the sideline watching.

On July 24, 2015, Japan's IP Bridge filed a complaint against TCL, a Chinese company, and its affiliate and wholly-owned subsidiary in the United States for infringement of IP Bridge's patents.¹¹⁹ IP Bridge initiated the litigation in the U.S. District Court for the District of Delaware because it alleged that the defendants' mobile devices under the Alcatel OneTouch brand infringed on its essential patents.¹²⁰ The decision to litigate in the United States underscores IP Bridge's willingness to pursue infringers regardless of nationality. In fact, IP Bridge brought the litigation against TCL after it had sent four separate letters to TCL about the infringement, but TCL ignored them all.¹²¹ IP Bridge's behavior seems to follow what France Brevets has done: pursuing litigation when negotiation is either nonexistent or fails after months of discussion.¹²²

The patents in the suit asserted by IP Bridge were originally Panasonic's patents. IP Bridge aggregated several hundred patents from Panasonic back in 2013 when IP Bridge was first established.¹²³ IP Bridge brought a second patent infringement action against Broadcom, a Singapore company, in early 2016 for infringement of six

¹¹⁸ See generally Jack Ellis, *France Brevets License Deal with LG Electronics a "Milestone", Says Senior Fund Executive*, INTELL. ASSET MGMT.: BLOG (Sept. 1, 2014), <http://www.iam-media.com/blog/detail.aspx?g=604614dc-555e-4322-b6cb-4e6452643733>; Richard Handford, *France Brevets Resolves NFC Patent Dispute with LG*, MOBILE WORLD LIVE (Aug. 19, 2014), <https://www.mobileworldlive.com/money/news-money/france-brevets-resolves-nfc-patent-dispute-lg>; *France Brevets Licenses NFC Patents to Samsung*, INSIDE SECURE (May 30, 2016), <https://www.insideseurope.com/Company/Press-releases/France-Brevets-licenses-NFC-Patents-to-Samsung>.

¹¹⁹ Complaint at 1-3, *Godo Kaisha IP Bridge 1 v. TCL Comm'n Tech. Holdings Ltd.*, No. 1:15-CV-00634 (D. Del. filed July 24, 2015) [hereinafter IP Bridge Complaint].

¹²⁰ *Id.* at 5-7.

¹²¹ *Id.* at 7-8.

¹²² Jacob Schindler, *Japan's Sovereign Patent Fund Initiates First Legal Action in the US, Accusing TCL of Infringing Three SEPs*, INTELL. ASSET MGMT.: BLOG (Sept. 3, 2015), <http://www.iam-media.com/blog/detail.aspx?g=c67fb03e-c954-4e9e-8a31-dd0f6c32834e> ("[T]he French SPF told IAM earlier this year that it only pursues litigation when there is no movement in negotiations: 'For example, when after sharing a lot of information about our patents and the financial scheme we are offering, we have not received any counter-offer after several months of discussion.' This is similar to the situation apparently faced by IP Bridge in trying to establish a dialogue with TCL.").

¹²³ *Id.*

patents. Five out of the six asserted patents are from Panasonic.¹²⁴ Similar to the second patent suit, IP Bridge filed its third litigation based on patents from Panasonic against OmniVision Technologies in the district court of Delaware.¹²⁵ These cases are still pending.

Korea's SPF, Intellectual Discovery, despite owning many patents, has been rather quiet on the litigation front. It has been reported that ID assigned its rights to three patents to a newly created company in Texas, Game and Technology Co., Ltd., in January 2015.¹²⁶ Game and Technology then filed a patent infringement suit in the Eastern District of Texas against Blizzard Entertainment, Riot Games, Valve, and Wargamingnet.¹²⁷ The case was transferred to the Central District of California and then dismissed three months after the transfer.¹²⁸ Korea's ID is not involved in any other litigation.

While Japan and Korea's SPFs are on the timid side of patent assertion through costly litigations, Taiwan's ITRI has taken a much stronger stance. "ITRI has initiated more than 15 patent infringement suits against foreign companies," including tech giants like LG and Samsung.¹²⁹ Overall, with respect to litigation, France, Japan, Korea, and Taiwan's SPFs have all resorted to litigation in extracting patent licenses. However, the patent litigation strategy thus far has benefitted only France Brevets, as it is the only entity with a licensing victory.

III. CONDEMNING SPFS AS PATENT TROLLS?

"Patent troll" is a pejorative term used to label a non-practicing entity for enforcing its patent assets against alleged infringers through litigation and licensing tactics that are deemed unduly opportunistic, having no intention, plan, nor capability of practice for the patented invention.¹³⁰ For some, a patent troll means an entity asserting patents

¹²⁴ Jack Ellis, *Japanese Public-Private Patent Fund Initiates Second Assertion Campaign; Targets Post-Merger Broadcom*, INTELL. ASSET MGMT.: BLOG (Feb. 25, 2016), <http://www.iam-media.com/blog/detail.aspx?g=2f3f67cd-e559-4c39-92c4-2e6b98eefd21>.

¹²⁵ Jack Ellis, *New IP Bridge Suit Highlights How Sovereign Patent Funds Have Entered a New Phase in Their Development*, INTELL. ASSET MGMT.: BLOG (Apr. 26, 2016), <http://www.iam-media.com/blog/detail.aspx?g=9cc0ad82-0bb2-4889-a78c-f22135276cd7>.

¹²⁶ Ellis, *Patents Linked to Intellectual Discovery*, *supra* note 94.

¹²⁷ *Id.*

¹²⁸ Complaint, *Game & Tech. Co. v. Wargaming.net LLP*, No. 2:16-CV-06554-CBM-PLA (E.D. Tex. filed July 9, 2015), https://insight.rpxcorp.com/litigation_documents/12134205.

¹²⁹ Ryan Ellis, *The Secret Plan to Kill Free Trade*, FORBES (Mar. 27, 2014, 10:43 AM), <http://www.forbes.com/sites/ryanellis/2014/03/27/the-secret-plan-to-kill-free-trade/#2e1b48fd62d4>.

¹³⁰ See *Chrimar Sys., Inc. v. Foundry Networks, Inc.*, 976 F. Supp. 2d 918, 926

in lawsuits to extract license fees.¹³¹ For others, patent trolls dampen innovation.¹³² Some would assert broadly any entity that does not practice patents, like universities and research institutes, may as well be deemed a patent troll.¹³³ One thing is clear, from Wikipedia to the media and scholars, there are now many variations of the meaning of “patent troll” because the patent market has become quite complex and remains attractive to many new and different types of non-practicing entities.¹³⁴ Regardless of the variance, the term “patent troll” conjures a negative image of extortion.¹³⁵

(E.D. Mich. 2013) (noting the definition of patent troll). *See generally* Energy Heating, LLC v. Heat On-The-Fly, LLC, No. 4:13-CV-10, 2015 WL 11143139, at *1 (D.N.D. Aug. 13, 2015) (instructing the parties to “avoid all terms that are not only pejorative but, like ‘patent troll’, actually contain a legal conclusion”); Jason Rantanen, *Slaying the Troll: Litigation as an Effective Strategy Against Patent Threats*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 163-69 (2006) (tracing the history of the label “patent troll” and noting the difficulty of applying that label to different categories of patent holders).

¹³¹ *See* Julien Pénin, *Strategic Uses of Patents in Markets for Technology: A Story of Fabless Firms, Brokers and Trolls*, 84 J. ECON. BEHAV. & ORG. 633, 633 (2012) (discussing the origin of the term “patent troll” and the concern over the development of patent trolls). Justice Kennedy is among those noting that “[a]n industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees.” *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396 (2006) (Kennedy, J., concurring) (citing FTC, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY, ch. 3, 38-39 (Oct. 2003), <https://www.ftc.gov/sites/default/files/documents/reports/promote-innovation-proper-balance-competition-and-patent-law-and-policy/innovationrpt.pdf>).

¹³² *See generally* 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, 1310-12 (2013) (proclaiming that the impact of patent trolls “on innovation may be the most important empirical question in patent law today”); Dustin Volz, *White House on Patent Trolls: It’s Your Turn*, *Congress*, NAT’L J. (Feb. 21, 2014), <https://www.nationaljournal.com/s/61718/white-house-patent-trolls-its-your-turn-congress?mref=mostread-3>.

¹³³ For example, see Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1577-78 (2009) [hereinafter *Of Trolls, Davids, Goliaths, and Kings*], using the term “NPE” instead of “patent troll” upon recognition that the term “NPE generally refers to a patentee that does not make products or ‘practice’ its inventions. Over time, the definition has narrowed to exclude actors in the innovation enterprise who engage in significant research and development activities and individual inventors who seek to commercialize their inventions.”)

¹³⁴ John R. Allison et al., *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1, 10-11 tbl.1 (2009) (indicating that among the twelve classes of patent plaintiffs, eleven are trolls or non-practicing entities); Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 320 (2010) (observing that there are many kinds of non-practicing entities, “each with its own . . . patent

According to Electronic Frontier Foundation's ("EFF's") narrative, a patent troll uses patents as "weapons" in the business of threatening and bringing litigation.¹³⁶ The patent troll purchases patents at low cost from down-trodden companies who have nothing left, except patents.¹³⁷ But these purchased patents should never be issued by the USPTO in the first place, EFF laments, because they are too broad, lack novelty, and are "not revolutionary."¹³⁸ The narrative continues that with its potent weapons, the patent troll searches for its victims and then sends them threatening letters wherein the troll demands a licensing fee.¹³⁹ The victims comply because the fees are significantly smaller than the litigation cost, even though they believe the patents are "bogus" and their products "did not infringe."¹⁴⁰ Similar narratives permeate popular culture.¹⁴¹ From Congress to the media, many are ready to condemn patent trolls.¹⁴² Soon, patent trolls will become the

strategy"); Gene Quinn, *In Search of a Definition for the Term "Patent Troll,"* IPWATCHDOG (July 18, 2010), <http://www.ipwatchdog.com/2010/07/18/definition-patent-troll/id=11700>.

¹³⁵ Feldman & Ewing, *supra* note 1, at 1 ("Troll activity is generally reviled by operating companies as falling somewhere between extortion and a drag on innovation.").

¹³⁶ *Patent Trolls*, ELEC. FRONTIER FOUND., <https://www.eff.org/issues/resources-patent-troll-victims> (last visited Feb. 26, 2017).

¹³⁷ *Id.*

¹³⁸ *Id.* The patentability requirements under patent law do not require "revolutionary" ideas, but the invention must be novel and nonobvious, in addition to patentable subject matter, utility, and enablement. See 35 U.S.C. §§ 101-103, 112 (2018). Among the patentability requirements, the nonobviousness doctrine plays a pivotal role of weeding out trivial advances and ensuring only substantial advances are entitled to patent protection. Christopher A. Cotropia, *Nonobviousness and the Federal Circuit: An Empirical Analysis of Recent Case Law*, 82 NOTRE DAME L. REV. 911, 912 (2007); Glynn S. Lunney, Jr. & Christian T. Johnson, *Not So Obvious After All: Patent Law's Nonobviousness Requirement, KSR, and the Fear of Hindsight Bias*, 47 GA. L. REV. 41, 42-43 (2012).

¹³⁹ *Patent Trolls*, *supra* note 136.

¹⁴⁰ *Id.*; see also Robin M. Davis, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and eBay v. MercExchange*, 17 CORNELL J.L. & PUB. POL'Y 431, 431-32 (2008) (noting that "[c]onveniently, the licensing fee is calculated to be less than the cost of a legal defense").

¹⁴¹ Edward Lee, *Patent Trolls: Moral Panics, Motions in Limine, and Patent Reform*, 19 STAN. TECH. L. REV. 113, 113 (2015) (analyzing how the media has consistently used the term "patent troll" to negatively portray all non-practicing patent entities without understanding patent law on ownership).

¹⁴² Both federal and state legislatures have either proposed or enacted some legislation aimed at curbing patent trolls. See e.g., *Bad Faith Assertions of Patent Infringements*, VT. STAT. ANN. tit. 9, §§ 4195-4199 (2013); Patent Transparency and

public enemy, the cause of patent systemic ills, the reason for patent reforms and proposals for more reforms.¹⁴³

Given all the negative associations with “patent trolls,” scholars and experts are not hesitant to brand France Brevets, IP Bridge, ID, Ruichuan IPR Funds, and other SPFs as patent trolls.¹⁴⁴ Some experts dismissively vocalize that as long as SPFs are engaging in suing anyone for patent infringement, the SPFs are “trolling.”¹⁴⁵

Upon a careful review of SPFs and their activities, the negative label “patent trolls” is perhaps unwarranted. First, SPFs are not in the business of patent litigation. For instance, even France Brevets, as the most litigious SPF by far, employs a business model wherein the entity works with inventors to obtain patents, bears the cost of patent procurement, and then commercializes through licensing enforcement.¹⁴⁶ The original patentees continue to own the patents

Improvements Act of 2013, S. 1720, 113th Cong. (2013); Innovation Act, H.R. 3309, 113th Cong. (2013); Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. (2013); S. 1540, 77th Leg., Reg. Sess. (Or. 2014). The American Invents Act, of course, aims at controlling patent trolls. Sara Jeruss et al., *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, 11 DUKE L. & TECH. REV. 357, 358-60 (2012) (stating that patent trolls are the system’s “modern villains” and discussing provisions in the AIA aimed at patent trolls).

¹⁴³ See Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2124 (2013) (“[T]rolls cost the economy \$500 billion over the last twenty years, mostly in the IT industry. Other reports suggest that patent trolls inhibit innovation at the firms they sue.”); Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 368, 384 (2010) (“[Patent trolls] tend to exploit litigation and licensing market defects to extract unwarranted rents from commercializers.”). *But see* Kristen Osenga, *Sticks and Stones: How the FTC’s Name-Calling Misses the Complexity of Licensing-Based Business Models*, 22 GEO. MASON L. REV. 1001, 1005-10 (2015) (advocating for a better understanding of patent licensing firms and how these firms affect innovation and competition).

¹⁴⁴ David Balto, *State-Sponsored Patent Trolls Signal New Form of Protectionism*, ROLL CALL (Sept. 16, 2013, 1:21 PM), http://www.rollcall.com/news/state_sponsored_patent_trolls_signal_new_form_of_protectionism_commentary-227649-1.html; Letter from Stephen DeMaura, President, Americans for Job Sec. et al. to the Fed. Trade Comm’n (Dec. 16, 2013), https://www.ftc.gov/sites/default/files/documents/public_comments/2013/12/00058-87866.pdf; Levine & Kim, *supra* note 43.

¹⁴⁵ Levine & Kim, *supra* note 43 (reporting experts’ views on SPFs and trolling behaviors).

¹⁴⁶ France Brevets can find support among IBM, GE, and MOSAID, the formerly manufacturing companies that have been very aggressive in commercializing their patents through licensing programs. *See* Kristen Osenga, *Formerly Manufacturing Entities: Piercing the “Patent Troll” Rhetoric*, 47 CONN. L. REV. 435, 440, 466 (2014) (advocating that formerly manufacturing companies, such as IBM, GE, and MOSAID, should not be condemned as patent trolls because they are providing benefits for the commercialization of their technology).

and receive a share of the royalty fees obtained by France Brevets.¹⁴⁷ Through careful and efficient licensing, France Brevets selects quality patents for its licensing and enforcing efforts.¹⁴⁸ Moreover, LG and HTC are sophisticated multinational companies, and they are not troll victims without resources to vigorously fight back against France Brevets in court. France Brevets resorts to litigation, as seen in the two cases against LG and HTC in Europe and the United States, only when numerous negotiations fail.¹⁴⁹ Consequently, it was successful in achieving a settlement and receiving a court victory.¹⁵⁰ The two cases are the only litigations France Brevets has ever initiated. Japan's IP Bridge and Korea's ID are slow in embracing patent litigation, and thus far they have seen no results from their pending suits, as patent litigations are notoriously expensive and unpredictable.¹⁵¹ In sum, these SPFs do not rely on patent litigation to prey on victims as their modus operandi, and the alleged infringers, in the few cases that SPFs have brought against them, do not fit the victimology of the patent troll narrative.

Second, SPFs like France Brevets are not purchasing patents from down-trodden companies for extraction. France Brevets acquires patent rights from innovators who have devoted significant research and development resources to generating their patents, yet have not been able to assert their patent rights. For example, France Brevets works with Onera, the French aerospace research agency with more than 2,000 employees, including 1,500 scientists and engineers,¹⁵² to

¹⁴⁷ *What We Do*, FR. BREVETS, <http://www.francebrevets.com/en/what-we-do> (last visited Jan. 13, 2017).

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ *Court Decision on Validity Against HTC in Germany in the NFC Patent Dispute with France Brevets*, FR. BREVETS (Jan. 22, 2016), http://www.francebrevets.com/sites/default/files/RELEASE_JAN%2022%202016_FRANCE_BREVETS.pdf.

¹⁵¹ Moreover, today's great attention on patent litigation explosion apparently has little support because the patent system of "the mid-to-late nineteenth century was in some ways more litigious than that of the early twenty-first." Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 YALE L.J. 848, 851 (2016). "Balancing out the reform-minded commentators is another set of historically informed scholars, for whom the commotions of the past provide reason to be sanguine about the present. In this view, 'historical amnesia' has contributed to an unjustified sense that the travails of the current patent system are unprecedented and frightening. The long history of patent struggles and even their association with technological progress should counsel us against legislative or judicial overreaction. This is especially so given that the level of litigation does not seem unduly high by past standards." *Id.* at 942.

¹⁵² *Identity*, ONERA, <https://www.onera.fr/en/identity> (last visited Jan. 3, 2018).

take advantage of Onera's technology for licensing purposes.¹⁵³ France Brevets teamed up with global companies, such as Airbus and Ericsson, to found IP Europe to assert patent rights originated from many innovative entities.¹⁵⁴ IP Europe receives support from innovators such as Alstom, the Fraunhofer Institute, Orange, research institutes, and European small- and medium-sized enterprises.¹⁵⁵ Likewise, Korea's ID acquires its patents from individuals, universities, and research entities, as well as prominent companies.¹⁵⁶ Japan's IP Bridge similarly received 836 patents from Panasonic, 100 from NEC, and 88 from Sanyo, according to U.S. patent assignments data.¹⁵⁷ Taiwan's ITRI has sponsored numerous research projects and worked with many innovators and SMEs in its efforts of amassing patents.¹⁵⁸ China's Ruichuan IPR also works with third-party institutes to acquire patents.¹⁵⁹ In sum, these SPFs are working with innovative enterprises, which are no different from the U.S. entities that legal scholars have come to recognize as not being patent trolls.¹⁶⁰ These innovative

¹⁵³ *Onera and France Brevets Join Forces to Expand Onera's Patent Valuation*, FR. BREVETS (July 16, 2012), <http://www.francebrevets.com/sites/default/files/201207-valorisation-Onera-France-brevets.pdf>.

¹⁵⁴ *IP Europe Press Release*, FR. BREVETS (Jan. 26, 2016), http://www.francebrevets.com/sites/default/files/Press%20Release%20IP%20Europe_EN.PDF [hereinafter *IP Europe*]. Airbus and Ericsson are no different from Conversant, once known as a producer of semiconductor and computer memory technology, it commercializes its patent portfolio. See *Our Portfolio*, CONVERSANT, <http://www.conversantip.com/our-portfolio> (last visited Feb. 26, 2017). Likewise, GE acquires many patents and does not "necessarily make a product for every patent they eventually assert against another entity." *GE's IP Counsel Takes a Surprising Position on So-Called "Patent Trolls,"* RICH GOLDSTEIN (Apr. 8, 2013), <http://www.richgoldstein.com/2013/04/08/ge-ip-counsel-takes-a-surprising-position-on-patent-trolls>. Similarly, IBM converted from a technology manufacturing company to a global licensor with more than \$1 billion royalty revenue a year. David Kirkpatrick, *The Future of IBM*, FORTUNE (Feb. 18, 2002), http://www.archive.fortune.com/magazines/fortune/fortune_archive/2002/02/18/318158/index.htm (stating that the shift in business model from product manufacturing to patent licensing allows IBM to become "the world leader in new patents; it earns well over \$1 billion a year licensing those patents").

¹⁵⁵ *IP Europe*, *supra* note 154.

¹⁵⁶ *About ID*, *supra* note 45.

¹⁵⁷ Jack Ellis, *Japanese Sovereign Patent Fund Gains Momentum with Two Big Deals in the Past Week*, INTELL. ASSET MGMT.: BLOG (June 2, 2015), <http://www.iam-media.com/Blog/Detail.aspx?g=3a280eb6-778f-4bb4-bed4-aeb78682aa1a>.

¹⁵⁸ See *supra* Subpart I.C.

¹⁵⁹ See *supra* Subpart I.D.

¹⁶⁰ See Chien, *supra* note 133, at 1578 (noting that the shift in the patent troll or NPE definition has narrowed "to exclude actors in the innovation enterprise who engage in significant research and development activities and individual inventors who seek to commercialize their inventions"); see also Osenga, *supra* note 146, at 440 (advocating that former manufacturing companies, such as IBM, GE, and MOSAID,

enterprises want to commercialize their patented inventions, reaping the benefits of their research, development, and investments.

Third, some SPFs are not aggregating and asserting patents for their own profits. France Brevets returns a “significant part” of the profits back to the original inventors who continue to own the patents while granting France Brevets the right to enforce the patents on their behalf. There exists a strong belief in France that these inventors have been treated unfairly by others who use their technologies without compensation.¹⁶¹ France Brevets fills the gap by bringing fair compensation back to original inventors through its efficient licensing efforts.¹⁶² Korea’s ID is slightly different; it wants to stimulate an emerging IP business in Asia. It actively invests in start-ups and ventures to develop new ideas and procure high-quality patents.¹⁶³ ID rewards inventors by adding value to invention through an IP R&D program and paying inventors for their IP assets.¹⁶⁴ Accordingly, ID has engaged in transactions of more than 5,000 patents with its investment fund of more than \$500 million but currently does not have any pending litigation anywhere.¹⁶⁵ Again, these SPFs’ conduct is different from the patent trolls’ behavior, which is widely condemned by critics, as seen in the narrative described by the Electronic Frontier Foundation.

Most importantly, a new trend among SPFs has recently emerged.

For instance, IP Bridge stresses to the public that it has moved beyond its original goals of facilitating open innovation and patent aggregation.¹⁶⁶ The company has signed a drug discovery deal with Kyushu University to conduct research and development on “microcapsule technology consisting of silica porous materials” for a

should not be condemned as patent trolls because they are providing benefits for the commercialization of their technology). *See generally* Christopher A. Cotropia et al., *Unpacking Patent Assertion Entities (PAEs)*, 99 MINN. L. REV. 649 (2014) (examining beyond the simple PAE or non-PAE distinction and identifying a new group of patent holders as new entrants in the patent system).

¹⁶¹ *See What We Do*, *supra* note 147.

¹⁶² *How We Work*, FR. BREVETS, <http://www.francebrevets.com/en/how-we-work> (last visited Feb. 26, 2017).

¹⁶³ *About ID*, *supra* note 45.

¹⁶⁴ *What We Do*, *supra* note 147.

¹⁶⁵ *About ID*, *supra* note 45.

¹⁶⁶ Jack Ellis, *Japanese SPF Sends Message that It Is More than Just a Patent Assertion Entity with New Drug Discovery Collaboration*, INTELL. ASSET MGMT.: BLOG (Nov. 3, 2016), <http://www.iam-media.com/Blog/Detail.aspx?g=2912745a-ae50-4a2a-9a00-2f24d1591e0b>.

new drug delivery system.¹⁶⁷ It has also signed an agreement with Malaysia Digital Economy Corporation for collaboration on technology creation.¹⁶⁸ The agreement allows Malaysian tech businesses to gain access to Japan's "vast research and development field for creating innovations in technology" and to enter the Japanese market.¹⁶⁹ In addition, France Brevets and Korea's ID are changing their direction by focusing "more closely on out-licensing and sales."¹⁷⁰

Since the birth of SPFs, no direct evidence has emerged in Japan, Taiwan, Korea, China, and France relating to governments in these countries developing policies in favor of their SPFs while harassing companies from other countries. The fear articulated, though rational, does not as of yet have much support in reality. For the lingering skeptics, time will indeed fully inform us as to the true character of SPFs. With all the evidence thus far, SPFs' behavior and conduct are more complex within the context of the global innovation market.¹⁷¹ SPFs, as of today, neither deserve to be called nor fit squarely within the conclusory and negative label of patent trolls.

IV. CONDEMNING SPFS AS TRADE PROTECTIONISM, WTO/TRIPS VIOLATORS?

Should SPFs be condemned as trade protectionist measures adopted by WTO members against others? This question merits careful examination.

In 1994 the WTO administered the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS") whereby all WTO member nations agreed to governmental regulation of many forms of intellectual property.¹⁷² It is undeniable that the landscape of global trade competition has since changed, particularly in the area of intellectual property and innovation.¹⁷³ The concerns from the United

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ Some scholars have called for better approaches to go beyond the "patent troll" label and focus on the patent system itself that enables the business model of patent aggregation entities. See Lemley & Melamed, *supra* note 143.

¹⁷² TRIPS: Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299.

¹⁷³ See generally Susan Riley Keyes, *Process Patents: Protection and Weapon in the Global Marketplace*, 22 SUFFOLK TRANSNAT'L L. REV. 715 (1999) (noting how new DNA

States, Europe, and Japan about intellectual property piracy are yesterday's news.¹⁷⁴ Also, trade defense instruments like anti-dumping and countervailing duties may not be as effective in the area of technology and innovation.¹⁷⁵ New concerns arise, such as the global trade witnesses Japan, Korea, China, Taiwan, and France using patents as their new trade defense weapons through SPF aggregation and assertion of the patent portfolios against foreign companies.¹⁷⁶

Is this new trade defense — SPFs — a form of government protectionism as some patents have become globally valuable and potent to competitors in the big tech industry? This concern centers on the fact that the SPFs aggregate patents with funding directly from the foreign governments, very unlike NPEs that are organically and privately sourced as seen in the United States. SPFs then use the patents against companies from other countries, including the United States. Consequently, by sponsoring SPFs, governments depress

recombinant technology led the United States to change from even-handed intellectual property to technology-specific protectionism through specific enactment of process patent legislation that causes a conflict between intellectual property protection and free trade expansion, specifically, shielding the new technology industry from foreign competition).

¹⁷⁴ See generally Kal Raustiala, *Commentary: Density and Conflict in International Intellectual Property Law*, 40 UC DAVIS L. REV. 1021 (2007), observing how intellectual property rights are “increasingly an arena of global cooperation and conflict. . . . Once limited to a set of relatively anemic treaties that lacked an effective means of international enforcement, in the last decade [it] . . . has been transformed by a dense array of new institutions and agreements. These institutions and agreements have in turn transformed both the substance and the process of international IP lawmaking.” Discussion about intellectual property today touches on diverse subjects from “patent rights as a biosecurity strategy” in anti-terrorism to tax havens for intellectual property assets. See, e.g., Arthur J. Cockfield, *Big Data and Tax Haven Secrecy*, 18 FLA. TAX REV. 483, 527 (2016) (explaining an international tax avoidance scheme involving intellectual property development); Taiwo A. Oriola, *Against the Plague: Exemption of Pharmaceutical Patent Rights as a Biosecurity Strategy*, 2007 U. ILL. J.L. TECH. & POL'Y 287 (discussing intellectual property law in the context of bioweapons and efforts to counter terrorism).

¹⁷⁵ The United States, knowing that antidumping and countervailing duties based on international law to curb unfair international trade are not sufficient, employs other relief and retaliatory measures under Section 337 of the Trade Act of 1930. See, e.g., David Scott Nance, *Relief from Unfair Import Practices Under Section 337 of the Tariff Act of 1930: An Overview*, 13 N.C. J. INT'L L. & COM. REG. 493, 493 (1988) (“Section 337 . . . is unique among the trade laws of the United States because it addresses certain activities, such as patent infringement and price fixing, and because of the broad nature of the remedies available under it, especially total exclusion of foreign imports under order.”).

¹⁷⁶ Hosuk Lee-Makiyama & Patrick Messerlin, *Sovereign Patent Funds (SPFs): Next-Generation Trade Defence?*, EUR. CTR. FOR INT'L POL. ECON. (June 2014), <http://ecipe.org/publications/SPF>.

international technology transfer in areas where SPFs have patent rights.¹⁷⁷ Alarmed, critics voice concern that SPFs would stifle innovation.¹⁷⁸ There are several problems with this argument. First, there is no evidence that obtaining patents for innovations and commercializing them discourages international technology transfers. There is no evidence showing that international technology transfers were robust before SPFs' creation and then decline thereafter.¹⁷⁹ Second, the patent system exists to encourage innovations, as inventors receive limited protection for a short period of time.¹⁸⁰ With qualified innovations protected as patents, the patentees have the right to exploit their patents. Regardless, whether exploiting patents is done directly by the original inventors, research institutions, or by SPFs on behalf of the inventors and institutions, the delegated conduct is not synonymous with discouraging international technology transfer.

Another concern rests on the possibility that foreign governments may have an even darker agenda: that they, after creating SPFs, may draft legislations "designed to advantage domestic firms by harassing

¹⁷⁷ Professors Bessen and Meurer have voiced their concerns about SPFs:

In recent years, some of the United States' closest trading partners have established enterprises for the purpose of asserting patents. France with its troll called France Brevets, which translates literally to "France Patents", Japan with its troll named the Innovation Network Corporation of Japan, and the Taiwanese Industrial Technology and Research Institute are all examples of governments which sponsor patent trolls that are frequently active in US courts. The latest entrant into this space is the government of China which established its own troll called Ruichuan IPR Funds earlier in this year. Government-sponsored patent trolls amass patents and assert them against companies from other countries, including American firms. A particularly notable example is Taiwan's ITRI which has used an arsenal of over 18,000 patents to sue non-Taiwanese firms in American courts. These actions have the potential to discourage international technology transfer, and dampen innovation within targeted firms and economies.

Michael J. Meurer & James Bessen, *Congress Needs to Rein in Patent Trolls*, BOS. GLOBE (Nov. 5, 2014), <https://www.bostonglobe.com/opinion/2014/11/04/congress-needs-rein-patent-trolls/BSuITBqcU11mtYIrkSK6yO/story.html>.

¹⁷⁸ *Id.*

¹⁷⁹ *See id.* For further evidence that SPFs have not reduced international tech transfers, given the complete absence of a discussion on SPFs in the authoritative WIPO report on international technology transfers, see *International Tech Transfer: An Analysis from the Perspective of Developing Countries*, WIPO (Nov. 14, 2014), http://www.wipo.int/edocs/mdocs/mdocs/en/cdip_14/cdip_14_inf_11.pdf.

¹⁸⁰ The patent system — from innovations to commercialization — is imperfect, and many scholars have proposed ways to improve it. *See, e.g.*, Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341 (2010). With all of its imperfection, the current system is what is available to govern existing patents.

foreign competitors.”¹⁸¹ The lingering fear is that even if a government does not have such an agenda, by acquiring patents in a particular key domestic industry the government through SPFs could potentially suppress competition in that industry.¹⁸² Another fear is that the government is using SPFs “to augment the competitiveness of ailing national champions against foreign competition.”¹⁸³ To suspicious minds, France Brevets and other SPFs are “retaliatory or discriminatory instruments” against foreign companies regardless of whether the patent claims are “legitimate or not.”¹⁸⁴ The only way for foreign companies to compete with the domestic industry is to accept licenses with terms imposed by SPFs.¹⁸⁵ In other words, foreign companies are paying a new form of discriminatory tax on products that are posing threats to domestic industry.

This argument, like others, is contrary to reality. Despite SPFs having been in existence for some time, no evidence has emerged to demonstrate that the governments of SPFs have been engaged in systematic conduct of harassment of foreign firms. Also, France Brevets brought patent infringement suits against LG and HTC to enforce patent rights, as there is no French domestic industry to compete with LG and HTC. As seen, the settlement in the two cases resulted in worldwide licensing based on the patent rights, not protecting ailing national champions. Likewise, IP Bridge’s litigations are based on patents once owned by Panasonic, a former electronics manufacturer, which now has a different business focus. Moreover, IP Bridge has been involved in R&D with research institutions in Japan and other Asian countries. ITRI and ID have been working directly with individual inventors, startups, and universities in new areas of innovation. France Brevets teamed up with Airbus and Ericsson, which is not a French company, to focus on strategies to license their own patent assets. Again, no evidence exists that SPFs’ patent claims are bogus, frivolous, retaliatory, or discriminatory.

The last concern is the proliferation of SPFs. As SPFs are being created by mid-sized economies, such as France, Korea, and Japan, these countries may serve as a signal to other nations that they should do the same. A prime example of a copycat of similar size and capability is Canada. However, Canada has refrained from joining the group, even though its government and experts have studied and

¹⁸¹ Meurer & Bessen, *supra* note 177.

¹⁸² See Lee-Makiyama & Messerlin, *supra* note 176.

¹⁸³ *Id.* at 1.

¹⁸⁴ *Id.* at 4.

¹⁸⁵ See generally *id.*

examined whether it should create SPFs.¹⁸⁶ Yet another example of a copycat with a higher degree of consequence is China. If China, a more powerful and bigger economy that is second after the United States, actively participates in the “race to the bottom,” the mid-sized economies will not be able to compete with China’s appetite and resource-rich capability to aggregate and assert patents against everyone globally.¹⁸⁷ The impact will be potentially devastating to innovation. This warning certainly warrants attention. However, there is evidence suggesting that the SPF model is not viable for others to duplicate, as discussed fully in Part VI.¹⁸⁸

Whether governments will be successful in their short-term efforts of helping domestic companies and sectors remains to be seen. If there is evidence that SPFs are indeed trade protectionist measures, the WTO’s framework to combat the measures is available.

V. WTO TRADE SOLUTIONS FOR SPFS

Ironically, while some countries are allegedly creating SPFs as their new trade defense instead of relying on the old trade defenses of anti-dumping and countervailing duties, other countries may rely on the same old trade defense of countervailing duties against SPFs as an actionable subsidy under the WTO Agreement on Subsidies and Countervailing Measures (“SCM”).¹⁸⁹ This Part will explain what the

¹⁸⁶ The Centre for Digital Entrepreneurship + Economic Performance (“deepcentre”) in Canada has conducted its study on SPFs. See CLARKE & HINTON, *supra* note 42; DAN HERMAN & WARREN CLARKE, DEEPCENTRE, THE RISE OF SOVEREIGN PATENT FUNDS: INSIGHTS AND IMPLICATIONS (Sept. 2014), http://deepcentre.com/wordpress/wp-content/uploads/2014/09/DEEP-Centre-The-Rise-of-Sovereign-Patent-Funds_SEPT-2014.pdf; PIERRE-EMMANUEL MOYSE & M. JEAN-ARPAD FRANÇAIS, MCGILL CTR. FOR INTELL. PROP., SOVEREIGN PATENT FUNDS: IS THERE A CANADIAN OPTION? IP POLICY IN THE MAKING (July 12, 2015), <http://www.cippmcmcgill.ca/files/sites/45/2016/06/Goddard-Sculthorpe.pdf>.

¹⁸⁷ See Balto, *supra* note 144.

¹⁸⁸ See *infra* Part VI, for further discussion.

¹⁸⁹ Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T.S. 14 [hereinafter SCM Agreement]. For an overview of SCM, see *Agreement on Subsidies and Countervailing Measures (“SCM Agreement”)*, WORLD TRADE ORG., https://www.wto.org/english/tratop_e/scm_e/subs_e.htm (last visited Feb. 26, 2017). Countervailing duties are duties to counter the negative impact of import subsidies to protect domestic producers. For example, “when a foreign government provides assistance and subsidies, such as tax breaks to manufacturers that export goods to the U.S., enabling the manufacturers to sale the goods cheaper than domestic manufacturers,” the countervailing duties are calculated to “duplicate the value of the subsidy.” *Anti-Dumping (AD) and Countervailing Duties (CVD)*, U.S. CUSTOMS &

WTO legal framework requires and analyze whether SPFs may fall within the prohibited subsidies.

No one can ignore the reality that WTO members create and implement new initiatives every day. Obviously, not all government initiatives and policies are deemed to be subsidies under the SCM. A subsidy is deemed to exist if (1) there is a financial contribution; (2) by a “government or any public body”; and (3) a benefit is thereby conferred.¹⁹⁰ Upon finding the existence of the subsidy, the next inquiry will focus on whether the subsidy is actionable under the SCM. That means whether the subsidy is specific to “an enterprise or industry or group of enterprises or industries”¹⁹¹ and causes “adverse effects” or “injury to the domestic industry of another Member.”¹⁹²

With respect to the “financial contribution” factor, the SCM provides a list of government practices deemed to be financial contributions, including grants, loans, loan guarantees, fiscal incentives, provision of goods or services, or provision of payments to a funding mechanism or directing a private entity to carry out any of the financial contribution measures.¹⁹³ As seen in how France Brevets, IP Bridge, ID, ITRI, and Ruichuan IPR each received funding from their respective governments, the “financial contribution” is present.

The next factor to consider is whether the financial contribution is provided “by a government or any public body.” Ascertaining the meaning of the phrase “government or public body” requires attention to the WTO Appellate Body Report in 2011 in the United States-Definitive Antidumping and Countervailing Duties (“Tribunal Decision”).¹⁹⁴ The Tribunal ruled that the concept of “public body” shares certain “attributes” with the concept of “government” and that a “public body” within the meaning of an SCM Agreement must be “an entity that possesses, exercises or is vested with governmental authority.”¹⁹⁵ Recognizing that there are no precise contours of a public body, the determination must be on a case-by-case basis “by

BORDER PROTECTION, https://help.cbp.gov/app/answers/detail/a_id/216/~anti-dumping-%28ad%29-and-countervailing-duties-%28cvd%29 (last updated Dec. 10, 2017).

¹⁹⁰ SCM Agreement, *supra* note 189, art. 1.

¹⁹¹ *Id.* art. 2.

¹⁹² *Id.* art. 5.

¹⁹³ *Id.* art. 1.1(a)(1).

¹⁹⁴ Appellate Body Report, *United States — Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, WTO Doc. WT/DS379/AB/R (adopted Mar. 11, 2011), https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=104996&CurrentCatalogueIdIndex=0&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True.

¹⁹⁵ *Id.* ¶ 313.

conducting a proper evaluation of the core features of the entity concerned, and its relationship with government in the narrow sense.”¹⁹⁶ The Tribunal noted that the absence of express statutory delegation of authority does not necessarily preclude a conclusion that a particular entity is a “public body.”¹⁹⁷ Also, the Tribunal rejected that having the government as the majority shareholder of an entity demonstrates the government exercises meaningful control over that entity.¹⁹⁸ Likewise, the existence of mere formal links between an entity and government is unlikely to establish the necessary possession of governmental authority.¹⁹⁹ The Tribunal concluded: “What matters is *whether* an entity is vested with authority to exercise governmental functions, rather than *how* that is achieved.”²⁰⁰ In short, the term “public body” refers to entities “owned or controlled by the government.”²⁰¹

Under the Tribunal Decision, France Brevets is more likely to be found as a “government or public body” because the French government has created and directly operates and controls the entity. The government saw an urgent need to create France Brevets in the age of the patent market; the government announced its purpose of building strategic patent positions and monetizing them through focused licensing efforts. France Brevets is conducting these tasks because the French government believes that private entities alone cannot build a “fair return for public and private research” and “foster transfers to industry.” The French government provided the funding and hired experts to execute the plan. The capital for the fund came directly and only from the government. No private funding has been sought.

The other SPFs from Asia are public-private partnerships. The governments creating these SPFs provide the majority of the capital while the private companies provide a fraction of the capital. The funds carry the governmental goals of building innovation and patent markets. The funds operate within the governments’ control, as seen recently in Korea’s SPF Intellectual Discovery, whose CEO resigned because he was frustrated with the high amount of governmental

¹⁹⁶ *Id.*

¹⁹⁷ *Id.* ¶ 314.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *Id.* ¶ 317.

control and wished the particular fund to be free of governmental control.²⁰²

The next factor is whether a benefit has been conferred. Turning to the Appellate Body's Report is again instructive in understanding this factor. In *Canada-Aircraft*, the Appellate Body held that a benefit had been conferred when the financial contribution made the recipient "better off" than it would have been without the contribution.²⁰³ In this sense, determining "benefit" implies a comparison "whether the recipient has received a financial contribution on terms more favorable than those available to the recipient in the market."²⁰⁴ It follows that SPFs may indeed confer a benefit. Simply, the vast patent portfolio aggregated by an SPF provides domestic companies access to the pool pursuant to a license agreement compared to having to separately license each patent in the pool directly from licensors. The patent pool eases the patent access and reduces the costs for domestic companies. Without the government's intervention (i.e., creation of an SPF), domestic companies would not have gained access to needed patents at a low price. Because there is no alternative market in existence to allow domestic companies to gain access to patents, there is no evidence of an SPF not conferring a benefit. If there were a preexisting market of patents, there would be no need for the governments to create SPFs! In other words, a benefit has indeed been conferred in SPFs.

²⁰² Jacob Schindler, *More Upheaval in the SPF Sector as Intellectual Discovery CEO Resigns*, INTELL. ASSET MGMT.: BLOG (Oct. 25, 2016), <http://www.iam-media.com/Blog/Detail.aspx?g=b7dd4a7b-dab7-433f-ae97-863557b2ec0e> (reporting the resignation of Kwang-Jun Kim, CEO of Korea's SPF Intellectual Discovery due to "fundamental differences of opinion with the fund's public sector backers over the level of financial support ID should receive from the government as well as the future direction of the company").

²⁰³ The Appellate Body stated:

We also believe that the word "benefit", as used in Article 1.1(b), implies some kind of comparison. This must be so, for there can be no "benefit" to the recipient unless the "financial contribution" makes the recipient "better off" than it would otherwise have been, absent that contribution. In our view, the marketplace provides an appropriate basis for comparison in determining whether a "benefit" has been "conferred", because the trade-distorting potential of a "financial contribution" can be identified by determining whether the recipient has received a "financial contribution" on terms more favourable than those available to the recipient in the market.

Appellate Body Report, *Canada — Measures Affecting the Export of Civilian Aircraft*, ¶ 157, WTO Doc. WT/DS70/AB/R (adopted Aug. 2, 1999).

²⁰⁴ *Id.*

Assuming SPFs are a subsidy, the next inquiry is determining whether the SPFs are an actionable subsidy within the meaning of the SCM. This inquiry requires ascertaining whether the subsidy is specific to certain enterprises or industries. In *US-Subsidies on Upland Cotton*, the WTO Dispute Settlement Body Panel found that certain eligibility criteria for a particular government program “have the effect of limiting eligibility to a subset of basic agricultural products.”²⁰⁵ Therefore the subsidies were deemed “specific.”²⁰⁶ In *US-Softwood Lumber IV*, the “wood products industries” satisfied specificity because it was limited to a group of industries.²⁰⁷ The Tribunal in that case

²⁰⁵ Panel Report, *United States — Subsidies on Upland Cotton*, ¶¶ 7.1147-7.1148, WTO Doc. WT/DS267/R (adopted Sept. 8, 2004) (“We believe that a subsidy that is limited to a small proportion of industries, such as those producing one or two individual United States products would be limited and thus ‘specific’ within the meaning of Article 2 of the *SCM Agreement*. These subsidies are ‘specific’ as they are not even available in respect of a number of commodities. . . . Other measures before us pertain to a restricted number of agricultural products, but are not widely or generally available in respect of all agricultural production, let alone the entire universe of United States production of goods. These measures include the marketing loan programme payments. They also include the measures available in respect of upland cotton as part of a restricted basket of agricultural commodities. These are the four types of domestic support which permit production flexibility (PFC, MLA, DP and CCP payments) that were or are provided in respect of certain agricultural production in a base period which satisfies certain eligibility criteria. These criteria have the effect of limiting eligibility to a subset of basic agricultural products, including upland cotton or certain other programme crops. We therefore find that these subsidies are ‘specific’ within the meaning of Article 2. The fact that some of the subsidies go to farmers who may produce different commodities, or, in theory, may not produce a given commodity does not mean, by some process of reverse reasoning, that the specificity that is apparent from the face of the grant instrument no longer exists.” (footnote omitted)), *aff’d* by Appellate Body Report, *United States — Subsidies on Upland Cotton*, ¶¶ 289-294, WT/DS267/AB/RW (adopted June 2, 2008).

²⁰⁶ *Id.*

²⁰⁷ Panel Report, *United States — Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, ¶¶ 7.121, 7.125, WTO Doc. WT/DS257/R (adopted Aug. 29, 2003) (“The USDOC Determination considered that only a group of wood product industries, consisting of the pulp and paper mills and the sawmills and re-manufacturers which are producing the subject merchandise used the stumpage programmes. It does not seem that USDOC simply labelled an aggregation of producers as a group of industries merely because they use a particular programme. In our view, the opposite was the case. As Canada recognized, the stumpage programme can clearly only benefit certain enterprises in the wood product industries which can harvest and / or process the good provided, standing timber. In sum, the text of Article 2 *SCM Agreement* does not require a detailed analysis of the end-products produced by the enterprises involved, nor does Article 2.1 (c) *SCM Agreement* provide that only a limited number of *products* should benefit from the subsidy. In our view, it was reasonable of the USDOC to reach the conclusion that the use of the alleged subsidy was limited to an industry or a group of industries. We

instructed, with respect to finding specificity, that “[i]n the case of a good that is provided by the government — and not just money, which is fungible — and that has utility only for certain enterprises (because of its inherent characteristics), it is all the more likely that a subsidy conferred via the provision of that good is specifically provided to certain enterprises only.”²⁰⁸ Also, *de facto* specificity exists even if only a small number of companies within a particular industry are using a government program, as shown in *EC-DRAMs Chips* where only six out of 200 eligible companies used a particular government program.²⁰⁹ Accordingly, specificity is readily found in SPFs. Applying these various interpretations of specificity dictated by WTO Tribunals to what SPFs have done, from purchasing patents in particular industries, near field communication, smart grids, aerospace, and the like, to creating patent markets in those industries, and to obtaining patent licenses for those industries, the SPFs are subsidies specific to certain enterprises and industries.

Last, the inquiry shifts to whether the subsidy causes “adverse effects” or “injury to the domestic industry of another WTO member.” In other words, the subsidy is actionable if material injury can be established by evidence. For example, by establishing that a subsidy is displacing or impeding imports or exports of a “like product” of another member, the subsidy is actionable. Illustratively, a member “whose coal industry is injured by another member’s coal subsidies could certainly bring an action, because these two products are identical.”²¹⁰ With regards to SPFs, as many SPFs have been created to

consider that the ‘wood products industries’ constitutes at most only a limited group of industries — the pulp industry, the paper industry, the lumber industry and the lumber remanufacturing industry — under any definition of the term ‘limited’. We do not consider determinative in this respect the fact that these industries may be producing many different end-products. As we discussed above, specificity under Article 2 SCM is to be determined at the enterprise or industry level, not at the product level. . . . We find therefore that the USDOC determination that the stumpage programmes which are used only by a limited group of wood product industries are in fact specific, is not inconsistent with Article 2.1 (c) SCM Agreement.” (footnotes omitted)), *aff’d* by Appellate Body Report, *United States — Final Countervailing Duty Determination with Respect to Certain Softwood Lumber From Canada*, WTO Doc. WT/DS257/AB/R (adopted Jan. 19, 2004).

²⁰⁸ *Id.* ¶ 7.116.

²⁰⁹ Panel Report, *European Communities — Countervailing Measures on Dynamic Random Access Memory Chips from Korea*, ¶¶ 7.223-32, WTO Doc. WT/DS299/R (adopted June 17, 2005).

²¹⁰ Chris Wold, Grant Wilson & Sara Foroshani, *Leveraging Climate Change Benefits Through the World Trade Organization: Are Fossil Fuel Subsidies Actionable?*, 43 *GEO. J. INT’L L.* 635, 640 (2012).

aggregate patents in specific industries to assist domestic companies in those industries, if SPFs achieve the stated goals, their very successes may be useful in establishing the required displacing or impeding imports or exports of a like product.

In summary, the SCM mechanism exists for WTO members to utilize if they have evidence to establish that SPFs of a specific member constitute actionable subsidies. The injured member can then bring an action with the WTO Tribunal. Success will depend on whether evidence indeed exists to meet each factor of the inquiry. Utilizing the WTO Tribunal is perhaps more effective in solving problems related to SPFs than the labeling of SPFs as patent trolls.

VI. MUCH ADO ABOUT NOTHING?

Attention devoted to SPFs may be much ado about nothing. First, the structure of SPFs can be easily altered to quiet critics about the uncomfortable characteristic of SPFs being government-sponsored. SPFs can be created as robust public-private partnerships. As more private enterprises participate and join in the creation and development of SPFs as strong public and private partnerships, the government-sponsored issue becomes moot.

Second, legal challenges to SPFs under the WTO Agreement on Subsidies and Countervailing Measures will not materialize. Simply, SPFs are not deemed to be subsidies within the meaning of SCM. The change in structure in SPFs from government-sponsored to meaningful public-private partnerships will reduce control exercised by the government on SPFs. Within the public-private partnership framework, SPFs can operate with an independent board and its executives would conduct the operation of the SPFs as a private entity. When more private enterprises participate in SPFs, the monetization received from licensing after deduction of the sharing percentage to original patentees or inventors will be reinvested. That means WTO members will not be able to meet factors such as “public body,” as government will have no meaningful control over SPFs.

Lastly, the SPF model of strict government control is not viable in the dynamic global innovation and patent market. Governments simply do not have the financial resources to continuously supply SPFs, as some SPFs have already faced budget crises.²¹¹ To rectify the

²¹¹ For example, as recounted by the former CEO of ID, the company faced a budget crisis “because it [was] getting far less financial support from the government than it had in previous years. The organisation’s budget dropped off precipitously beginning in late 2014, . . . when responsibility for ID was transferred from Korea’s

financial uncertainty, for instance, Korea's SPF, Intellectual Discovery, is exploring strategic options of a new future as a private entity.²¹² Though ID has been enjoying some success in licensing revenues and patent transactions, the desire to go private is very strong. Most importantly, going private would free ID from the government's restrictions on its activities and relationships with potential partners.²¹³ In fact, ID is looking forward to having the freedom to broaden its "horizons, perhaps working with non-Korean operating companies and partnering with other NPEs."²¹⁴ Similarly, Japan's IP Bridge is looking forward to its future of being fully private. As recalled, IP Bridge is currently public-private though the substantial majority of its funding is from the government. IP Bridge's CEO believes that commercialization of its patents is the "kind of business [that] should ultimately be managed by the private sector."²¹⁵ Government support in the form of public funding would be an "eventual evaporation."²¹⁶ Both ID and IP Bridge are keenly aware that success in commercialization of their patent portfolios can only fully occur if they follow the examples of Intellectual Ventures and other

Ministry of Trade, Industry and Energy to the Korean Intellectual Property Office (KIPO), and has continued to be cut since then. Operating under the aegis of the IP office also restricted the opportunities his team of 15 could pursue." Schindler, *supra* note 202.

²¹² See Jack Ellis, *The Future for Asia's Sovereign Patent Funds Is in the Private Sector, Say Their Chief Executives*, INTELL. ASSET MGMT.: BLOG (Sept. 6, 2016), <http://www.iam-media.com/blog/detail.aspx?g=f8bef7f5-d5d4-4b96-ae5d-e75b4db7b096> [hereinafter *The Future for Asia's SPFs*].

²¹³ The competing goals between the governmental and the SPF ID have led to the resignation of the CEO, as the CEO insisted that the future of ID is in the private sector. Schindler, *supra* note 202.

²¹⁴ In the interview conducted by IAM, Kwang Jun Kim, ID's CEO, revealed the benefits of privatization for ID and the near future for privatization plans. See Ellis, *The Future for Asia's SPFs*, *supra* note 212 ("Going private means we would have a little more freedom — we'd be able to broaden our horizons, perhaps working with non-Korean operating companies and partnering with other NPEs, if those scenarios are consistent with our strategy and goals.").

²¹⁵ Shigeharu Yoshii, CEO, IP Bridge stated that:

The IP business which we are running is necessary for the healthy growth of industries and academic research institutes, but it takes years to make a profit until that business can continue to run independently Therefore, so-called "patient capital", such as government-supported funding, is necessary. But we think that this kind of business should ultimately be managed by the private sector. Therefore, government support should be limited to the initial stages.

Id.

²¹⁶ *Id.*

NPEs which were formed by entities in the private sector free of governmental impetus in the United States.²¹⁷ In order to compete with others in the global market, SPFs must operate on equal footing with other private NPEs, free of government rules and interferences. In other words, judging from where the most influential SPFs in Asia are heading, SPFs will soon be relics of the past.²¹⁸

CONCLUSION

SPFs are diverse and complex. They will soon evolve in directions and goals in the ever-changing global innovation and patent markets. As SPFs evolve to be either private entities or robust public-private partnerships, concerns relating to illegal trade subsidy and government-sponsored discriminatory measures will subside. The creation and development of different SPFs, however, should prompt us to reexamine patents and the very laws creating and maintaining patents to become global assets.

²¹⁷ *Id.*

²¹⁸ Schindler, *supra* note 202 (“The trend here is that the sovereign patent fund will lose its sovereign status.”).