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IPRs in China - Market-oriented innovation or policy-induced rent-seeking?

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1 The Official Statements

1.1 Recap of the NIPS

After years of deliberation,[1] the State Council of China issued on 5 June 2008 the National Intellectual Property Strategy (NIPS) as the fourth national strategy after the "Strategy of Sustainable Development (1995)," the "Education and Science Strategy to Revive the State (1996)," and the "Talent Strategy to Strengthen the State (2002)." The purpose of the NIPS is to help "improve China's capacity for independent innovation and aid in efforts to make China an innovative country. It also aims at increasing the market competitiveness of Chinese enterprises, strengthening the core competitiveness of the country, and finally facilitating China's further opening up to the world, and leading to a win-win situation for China and the rest of the world."

The NIPS sets itself the following short-term strategic goals, which are to be achieved within 5 years: The level of the self-relied IPRs will be higher by a large

[1] Stefan Luginbuehl, "China's Patent Policy," in: Stefan Luginbuehl/PeterGanea (ed.), Patent Law in Greater China, 2014, 1.04.

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margin and there will be a greater quantity of IPRs; China will rank among the advanced countries in terms of annual number of invention patents granted to Chinese applicants, and greatly increase the number of overseas patent applications filed by Chinese applicants; a number of world-famous brands will emerge; the proportion of the GDP accounted for by the value of core copyright industries will be greatly increased; China will own a number of high-quality plant variety rights and high-level integrated circuit layout designs; trade secrets, geographical indications, genetic resources, traditional knowledge and folklores will be effectively protected and reasonably utilized; a number of preponderant enterprises with famous brands, core IPRs and rich experiences in utilizing the IPR system will emerge; the protection of IPRs will be significantly improved, its expense substantially decreased, its infringement significantly reduced and its abuse effectively curbed.

The long-term strategic goals envisioned by the NIPS are as follows: "By 2020, China will become a country with a comparatively high level of creation, utilization, protection and management of IPRs. The legal environment for IPRs shall be significantly improved; market entities will be well-versed in the creation, utilization, protection and management of IPRs; public awareness of IPRs will be greatly increased; the quality and quantity of the self-relied IPRs will be able to effectively support China's effort to become an innovative country; and the role of the IPR system in promoting economic development, culture prosperity and social progress in China will become apparent."

1.2 Overall Performance Evaluation of the NIPS since Implementation 8 Years Ago

In 2013, the Inter-ministerial Joint Committee on the Implementation of the NIPS has assessed the overall performance of the NIPS 6 years after the launch of the NIPS: "China managed to stay afloat during the Financial Tsunami that engulfed the globe, and more enterprises have successfully taken part in international market competition." "Relying on its independent IPRs, China has realized a moon expedition, developed the deep sea submarine, launched the BeiDou navigation satellite system, formed a carrier brigade, dominated 4G communications, and is marching into the high-speed railroad industry, among a series of breakthroughs and new progress, thereby catching attention world over." "With the implementation of the NIPS, the social environment for further implementing the NIPS and building an IP-strong country has been established."[2]

In "The Action Plan for 2014–2020 to Further Implement the NIPS" ("The Action Plan for 2014–2020") promulgated by the State Council on January

5, 2015, it is noticed that the short-term strategic goals of the NIPS have been achieved by and large.

1.3 The Development of IPR Industries in China

1.3.1 Patent-Related Industries

With an annual growth rate of 20 %, China ranks as the world number one in filed applications for three kinds of patents, since 2010. There has been a sevenfold increase of filed applications in high-tech industries, and domestic applicants make up 50 % of the applicants for invention patents.[2]

In 2012, patent applications filed by Chinese entities through PCT reached 19,926, ranking number 4 in the world, a more than threefold jump from 2008, when the total applications numbered 6081; international applications entering Chinese National Phase reached 70,221, among which 69,693 were for invention patent; there were 3.2 invention patents per 10,000 inhabitants, and the accumulated invention patents reached 435,000.[3] The above-mentioned figures kept growing in 2013, and it suffices to mention that the number of invention patents per 10,000 inhabitants further increased to 4.02. The ZTE Corporation filed the most PCT applications in 2012 and 2013 in the world.[4] In 2014, the number of invention patents per 10,000 inhabitants further climbed up to 4.9, patent applications filed by Chinese entities through PCT reached 24,007, an annual increase of 14.9 %.[5]

According to one study by staffers of the State Intellectual Property Office (SIPO),[7] between 2007 and 2011, investment in fixed assets by patent-intensive industries in China made up 19.3 % of the total investments in non-agricultural sectors; the paid-out salary equaled 18.8 % of the total salaries of all workers; an average of 32.9 million new jobs were created annually, employing 25.6 % of the total work force in non-agricultural sectors. In 2011, patent-intensive industries in China produced a total value of RMB 13 trillion, making up 25.1 % of the GDP (in the US, the 2010 figure stands at 34.8 %). Added together, these show that highly patent-intensive industries employed more labor while invested less, clearly

[2] Office of the Inter-Ministerial Joint Meeting for Implementation of the NIPS, On the Eve of the 6th Anniversary of the NIPS (in Chinese), available at http://www.nipso.cn/zhuanti/zl6/

[3] Chronical of the 5th Anniversary of the NIPS (in Chinese), available at: http://www.sipo.gov.cn/mtjj/2013/201306/t20130605_801919.html

[4] SIPO, 2013 IPRS Protection in China (in Chinese), 2014; Office of the Inter-Ministerial Joint Meeting for Implementation of the NIPS, On the Eve of the 6thAnniversary of the NIPS.

[5] SIPO, News release from the press conference held on 11 February 2015.

exhibiting the labor-intensive characteristics. Currently the comparative advantages of Chinese patent-intensive industries still hinge on labor-intensity, illuminating China's initial stage of transforming from labor-intensive to technology-intensive industry.[6]

1.3.2 Trademarks and Geographical Indications

In 2012, the total trademark applications reached 1.648 million, an annual increase rate of 16.3 %; registered trademarks reached 1.227 million, an 1.8 % increase as compared to 2011; the accumulated registered trademarks hit 6.4 million, occupying the world's first place; trademark applications filed through the Madrid Union by Chinese entities reached 2100, seventh in world ranking; the in-bound trademark applications filed through Madrid Union into China reached 20,121, surpassing any other country; the total number of registered geographical indications (GI) reached 1754, among which 42 were foreign; registered trademarks for agricultural products in aggregate reached a staggering 1.2815 million.[7] In 2013, the applications for trademark totaled 1.882 million, world number one for 12 years in a row; the total number of registered GI reached 2190; registered trademarks for agricultural products in aggregate rose to 1.4473 million.[8]

1.3.3 Copyrights

In 2012, the registered copyrights reached 687,651, a 49.05 % annual increase; registered software hit 139,228, a 27.33 % annual jump—both are historical highs.[9] Registered copyrights reached one million in 2013, among which there were 845,064 non-software-related works and 164,349 software items;mortgaged copyrights reached 244, an annual increase of 67.12 %.[10]

[6] Lee Fonxin et al., Statistical Report on Patent Concentration of Chinese Industries (in Chinese), 9 Science Focus, No. 1 (2014), 15.

[7] SIPO, 2012 IPRS Protection in China (in Chinese), 2013.

[8] SIPO, 2013 IPRs Protection in China; Office of the Inter-Ministerial Joint Meeting for Implementation of the NIPS, On the Eve of the 6thAnniversary of the NIPS.

[9] SIPO, 2012 IPRs Protection in China.

[10] SIPO, 2013 IPRs Protection in China; Office of the Inter-Ministerial Joint Meeting for Implementation of the NIPS, On the Eve of the 6thAnniversary of the NIPS.

According to WIPO's definition, copyright-based industries are those in which copyright plays an identifiable role in creating tradable private economic rights and income from the use of those rights. These industries are classified into four broad groups of copyright activities for statistical measurement: the core copyright industries,[11] the interdependent copyright industries,[12] the partial copyright industries[13] and the non-dedicated support industries.[14]

According to WIPO's study, the statistics for the economic contributions of Chinese copyright-based industries to the national economy are as follows: in 2004, the value added reached RMB 788.4 billion or 4.9 % of GDP; 6.16 million people or 5.6 % of workers employed; total exports reached US$92.2 billion or 15.5 % of national gross export value; in 2006, the value added reached RMB 1319.7 billion or 6.4 % of GDP; 7.63 million people or 6.5 % of workers employed; total exports reached US$149.3 billion or 15.4 % of national gross export value.[15] According to a study conducted by the Chinese Academy of Press and Publication (commissioned by the National Copyright Administration), in 2011 the value added reached RMB 3152.8 billion or 6.67 % of GDP (11.16 % of GDP) in the USA; 11.78 million people or 8.18 % of workers employed.[16]

[11] Nine groups of core copyright industries, according to product or service, are recommended to be included in any survey:(a) press and literature;(b) music, theatrical productions, operas; (c) motion picture and video;(d) radio and television;(e) photography;(f) software and databases; (g) visual and graphic arts;(h) advertising services; and (i) copyright collective management societies. See WIPO, Guide on the Surveying in Economic Contribution of the Copyright-Based Industries, 2003, paragraph 111.

[12] The first group – core interdependent copyright industries – includes manufacture, wholesale and retail (sales and rental) of TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic game equipment and other similar equipment; computers and equipment; and musical instruments. The second group of interdependent copyright industries – partially interdependent copyright industries – covers manufacture, wholesale and retail (sales and rental) of photographic and cinematographic instruments; photocopiers; blank recording material; and paper. WIPO, Guide on the Surveying in Economic Contribution of the Copyright-Based Industries, paragraphs 129, 131.

[13] The partial copyright industries are industries in which a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales. WIPO, Guide on the Surveying in Economic Contribution of the Copyright-Based Industries, paragraph 133.

[14] The non-dedicated support industries are industries in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries. WIPO, Guide on the Surveying in Economic Contribution of the Copyright-Based Industries, paragraph 139.

[15] WIPO, The Economic Contribution of Copyright-Based Industries in China, 2009, 13.

[16] Chinese Academy of Press and Publication, "Economic Contribution of Chinese Copyright Industries 2011 (in Chinese),"issued on 18 April 2014, available at: http://www.gapp.gov.cn/govpublic/96/201987.shtml

1.3.4 Plant Variety Rights and Integrated Circuit Layout Designs

The development in the area of plant varieties is stable and not sky-rocketing. In 2012, China ranked as world number two in its annual filing among members of the International Union for the Protection of New Varieties of Plants (UPOV). The Ministry of Agriculture received 1361 applications for new plant varieties, with the accumulated applications exceeding 10,000. The Forest Bureau (FB) received 148 applications for forest varieties, among which 26 originated from abroad, and granted 169 plant variety rights, making the number of total grants 500.[17] 2013 witnessed no increase, with the relevant figures unchanged: 1333 applications for new plant varieties. The FB received 162 applications for forest varieties, among which 8 originated from abroad, and granted 158 plant variety rights, making the number of total grants 658.[18] In 2012 there were 1778 applications for registration of integrated circuit layout designs, and 1629 certificates were issued.[19] Those numbers became 1561 and 1612, respectively, in 2013.[20]

1.4 The Exploitation of IPR

According to official sources, there have been 88,050 registered patent licensing agreements between 2008 and 2012; patent, trademark and copyright mortgage reached RMB 40 billion, 21.46 billion and 2.751 billion, respectively.[21] In 2013 alone, patent financing increased 80 % to RMB 25.4 billion; with the launch of patent insurance, 3530 enterprises nationwide have insured 1855 patents against total damages of RMB 64.38 million.[22]

1.5 A More Complete System of Laws and Regulation

The third revision to the Patent Act was effectuated on 27 December 2008 and came into force on 1 October 2009. Among others, the revision heightens the threshold for patent grant, increases the penalties for infringing patent and introduces preservation of the status quo order prior to bringing law suits and statutory damages. A

[17] SIPO, 2012 IPRS Protection in China.

[18] SIPO, 2013 IPRS Protection in China.

[19] SIPO, 2012 IPRS Protection in China.

[20] SIPO, 2013 IPRS Protection in China; Office of the Inter-Ministerial Joint Meeting for Implementation of the NIPS, On the Eve of the 6thAnniversary of the NIPS.

[21] SIPO, 2012 IPRS Protection in China.

[22] SIPO, 2013 IPRs Protection in China; Office of the Inter-Ministerial Joint Meeting for Implementation of the NIPS, On the Eve of the 6thAnniversaryof the NIPS.

new round of revision to the Patent Act has been under way since 2012. The third revision to the Trademark Act, effective since 1 May 2014, recognizes sound as registrable trademark, prohibits the use of "well-known marks" in association with sale advertisements and sharply increases punishment for "free-riding" on famous brands. "In order to sufficiently solve new copyright problems arising from the new era and to provide forceful protection to cultural prosperity, the third revision of the Copyright Act was initiated in July 2011and is "now progressing rigorously and in an orderly manner."[23]

1.6 IP Courts

To achieve the goal of significantly improving the protection of IPRs, the People's Supreme Court resolved on 27 October 2014 to establish three intermediate IP Courts in Beijing, Shanghai and Guangzhou, each with jurisdiction over administrative and civil cases (excluding criminal cases) over IP cases and unfair competition law-related cases (excluding anti-monopoly cases). These three courts have all been established and became operational by December 2014 at the latest. It is still too early to evaluate the actual effects of such specialized courts.

2 Major Problems in the Development of Chinese IPR Industries

The official data and reports tend to focus on and cover only the progress or achievement of numerical goals set by the NIPS, and risk being a typical self-reinforcing feature of state organs and propaganda. Therefore the following section takes a more critical view of the actual achievement of the NIPS and strives to pinpoint the problems and deficiency in the development of Chinese IPR industries.

2.1 Existing Major Problems and Deficiency

2.1.1 The Non-existence of IPR Valuation Mechanisms

A creditable valuation mechanism is the precondition for the exploitation of IPR to be for real, but is extremely difficult to establish. Without this, the impressive figures of 88,050 registered patent licensing agreements, RMB 40 billion,

[23] Ibid. But nothing much has been heard about its progress since the third draft was announced in 2012.

21.46 billion and 2.751 billion worth of patents, trademarks and copyright mortgages, 25.4 billion worth of patent financing, and the 1855 patent insurance policies against a total damages of 64.38 million could very well be baseless and even artificially inflated, a mirage created and supported by national institutions. Given that official reports made no mention of an IPR valuation mechanism and that if China managed to achieve something unachievable for the West it would hardly be kept under wraps, it is reasonable to infer that there is no such mechanism in place in China. Without a trustworthy valuation mechanism, it is not verifiable whether the goal of having "a number of high-quality new plant variety rights and high-level integrated circuits layout designs" has been realized at all.

2.1.2 State-Run Enterprises Perform Poorly in Creating Invention Patents

State-run enterprises account for a significant part of the Chinese economy. However, they score low in terms of creating invention patents. One study shows that in 2009, state-run enterprises spent RMB 263.3 billion on scientific and technological activities, which was 2.1 % of their total revenue and 31.8 % of national expenditure on R&D, but the resultant invention patents accounted for only 7.5 % of the national grants.[24]

2.1.3 Domestic Market and R&D Entities Plagued by Overflow of Low Quality IPR and Lack of Core Competitiveness

1. *Patent and Technological Innovation*

In recent years, China has indeed become patent-rich, but is not yet a patent-strong country for the following reasons:

(a) *Lack of Core Patents and Technology*

One study alleges that 95 % of Chinese enterprises do not have their own patents, and less than three of every ten thousand of them hold core technology patents; in the areas of aviation and aeronautics, high-definition TV, communication, electronics and automobiles, 80–90 % of the Chinese invention patents are owned by foreign companies.[25] According to the "2011–12 Annual Report on Chinese Digital Publishing Industry" by the Chinese Academy of Press and Publication, China

[24] Huang Danhua (Vice Chairman of the State-owned Assets Supervision and Administration Commission of the State Council), Report Made on the 2010 Working Meeting of Science and Technology R&D by Enterprises Run by the Central Government, available at http://www.sasac.gov.un/n1180/n1211/n2725/n4697/12368602.htm1

[25] Wu Handong, Assessment of the Construction of IP Legal System and Some Reflections (in Chinese), 2009 China Legal Science (in Chinese), No. 1, 62.

lacks R&D on core technology that would directly boost the digital publishing industry. As a result, imitation has become prevalent in all components of the value chain; manufacture of end devices, provision of contents and the establishment of platforms have become highly homogenous, price wars and over competition emerge regularly.[26] The "2013–14 Annual Report on Chinese Digital Publishing Industry" admits that the digital publishing industry lacks an innovative and sustainable business model despite showing rigorous development in 2013.[27]

(b) *Unreasonable Distributional Structure of Patents*

In 2012, invention patents constituted only 17.3 % (some 217,000 in total) of the 1.255 million patents that were granted in China.[28] By the end of 2011, Chinese companies held only 50.4 % of the total 697,000 valid invention patents, a percentage that will further shrink after taking into account the fact that many Chinese companies are controlled by foreign enterprises. Among the top 30 patentees, 15 are foreign (including Taiwanese) companies.[29] The percentage of invention patents will be reduced to only 15.3 % and the percentage of foreign-owned invention patents increased to 79.1 % if calculated from the total granted valid patents.[30]

The problem of low percentage of invention patents exists also in the patent structure of Chinese enterprises. In 2010, multinationals such as Mitsubishi and Siemens have more than 80 % of their patent portfolio in China as invention patents, whereas the Chinese Haier Group[31]and Midea Group[32] have only 15.6–1.6 %, respectively. The percentage of invention patents held by Chinese automobile industry is equally disappointing: the 98 % of GM and 66 % of Toyota stand in stark contrast to the less than 8 % of Chery Automobile,[33,34] and the even lower 3.4 % of Changan Automobile.[35]

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[26] Chinese Academy of Press and Publication, 2011–2012 Annual Report on Chinese Digital Publishing Industry (in Chinese).

[27] Ibid.

[28] Zhu Xuezhong, Dialectic Perspective of the Quantity and Quality of Chinese Patents (in Chinese), 28 Bulletin of Chinese Academy of Sciences (in Chinese),No. 4, 436(2013).

[29] Zhu ibid.

[30] SIPO, 2011 Annual Report on Valid Patents (in Chinese).

[31] According to its own website (http://www.haier.com/us/about-haier/), the Haier Group is the world's #1 major appliance brand as ranked by Euromonitor International 2013, and a global leader in consumer electronics.

[32] According to its own website (http://midea.com.sg/about-us/), Midea has from its establishment in 1968 developed into the world's largest producer of consumer appliances.

[33] According to its own website (http://www.chery.cn/into) Chery Automobile is allegedly the number one car manufacturer in China, with a total accumulated sale of 4.5 million cars, among which 1 million were exported.

[34] According to its own website (http://www.globalchangan.com/About/), in 2010 Changan Automobile's own-brand production ranked No.13 in the world, and No.1 in China. In 2011Changan Automobile's brand value reached RMB 30.515 billion yuan, among the top 10 most valuable brands in China.

[35] SIPO, 2011 Annual Report on Valid Patents.

In addition, patent applications filed through PCT are extremely unevenly distributed and heavily concentrated in certain industries, regions and enterprises. In 2011, the total PCT patent applications from China were 17,473, from which 45.4 % (7933) originated from the special economic zone Shenzhen. Huawei[36] and the ZTE Corporation[37]account for 58.7 % of the patent applications filed from Shenzhen and 26.7 % of the total filed applications.[38]

(c) *Low Commercialization of Patents and Technologies*

One of the weaknesses of Chinese technological innovation and its implementation of the NIPS lies in insufficient industrial exploitation and commercialization.[39] The commercialization rate remains a stubbornly low 5 %, even 4 years after the revision of the Science and Technology Progress Act in 2007,[40] whereas in some developed countries the rate allegedly reaches 80 %.[41]

One critical indicator for the exploitation and commercialization of patents is the length of paying for patent annuity. The longer the annuity is paid, the longer the period for patents to result in economic benefits, and the higher their market value. In 2011, 54.3 % of the valid invention patents in China has paid an annuity for less than 5 years, compared with a low 15.2 % in target foreign countries; only 4.8 %of the Chinese valid invention patents has paid annuity for more than 10 years, whereas that figure in target foreign countries jumped to 24.7 %. In 2011, the average annuity paid in China was for 5.7 years, contrasting with a much longer 8.7 year period in target foreign countries; invention patents maintained by foreign companies for longer than 10 years are four times more than those maintained by Chinese companies.[42] The 2012 figures were largely unchanged: 5.5 % of the valid Chinese invention patents has paid annuity more than 10 years, whereas that figure jumped to 26.1 % in target foreign countries. In 2014, the average annuity paid by local invention patentee increased to 6 years, still much lower than the average 9.4 years of annuity paid by foreign patentees.[43]

[36] Huawei is not a publicly listed company. According to http://www.wikiwand.com/zh-tw/华为, Huawei has a revenue of RMB 240 billion in 2013.

[37] According to its own website (http://wwwen.zte.com.cn/en/about/), the ZTE Corporation is a globally-leading provider of telecom equipment and network solutions, with operations in 160 countries, and a leader in technology innovation all over the world.

[38] Zhu, Dialectic Perspective of the Quantity and Quality of Chinese Patents (in Chinese), at 436.

[39] Feng Xiaoqing, On How to Facilitate Chinese Enterprises to Converge Technological Innovation and IPRS Strategy (in Chinese), 2014Heilonjiang Social Sciences, No.143(2nd Issue),104.

[40] Wang Honru, No Chinese University Would Be Ranked as One of the Top 50 Patentee Universities (in Chinese), 2011China Economic Weekly, Issue 46, 46.

[41] Zhang Jiaxin, How to Look at the Commercialization Ratio of Scientific and Technological Advancement (Chinese), China Science Daily, 10 March 2011, 1.

[42] SIPO, 2011 Annual Report on Patents in Force; Luginbuehl, Patent Law in Greater China, 1.27.

[43] SIPO, News release from the press conference held on 11 February 2015.

In 2013, the UK Intellectual Property Office has exposed the low commercialization of patents held by Chinese enterprises in graphene.[44] It reports that beginning from 2008, Chinese applicants started patenting graphene. That year their applications made up only 4 % of the worldwide patent families. In just 3 years that figure increased more than ten times to 49 % in 2011. 76.5 % of the graphene patents from Chinese applicants have come from academia and are all narrowly focused on the preparation of graphene. 95 % of their graphene patents have only one family member compared to 70 % worldwide, and in over 98 % of these patents, the single family member is a Chinese patent application. Only 0.6 % of graphene patents from Chinese applicants have more than five family members compared to 4.2 % worldwide. This means that many graphene patents from Chinese applicants are only going to have protection (once granted) in China and nowhere else worldwide.[45]

2. *Trademarks and Brands*

Chinese enterprises are facing a range of problems in developing trademarks and brands, as evidently reflected in the small number of high-value and internationally competitive well-known marks and in the weak brand awareness as well. "The Best (100) Global Brands" published by Business Week and Interbrand[46] led to the popular practice of ranking brands according to different criteria, such as regional and national (e.g. BrandZ), and business sectors (e.g. Brand Finance).[47]

So far only two Chinese brands have been included in the Best Global Brands published by Interbrand.[48] However, surprisingly, eleven Chinese brands are included in the "Top 100 Most Valuable Brands 2015 Report" published by BrandZ. There is no doubt that those brands are well known in China and therefore possess high market value. But most of them are insulated from external competition, therefore inward-looking and not truly global, whether Tencent and BeiDou

[44] According to the study of UK IPO, Graphene--The worldwide patent landscape in 2013, 1, Graphene has staggering material properties: the thinnest known material in the universe and the strongest ever measured; it is elastic and can stretch up to 20 % of its length; it is a very efficient electrical conductor, at room temperature it can sustain current densities six orders of magnitude higher than that of copper; its charge carriers have the highest intrinsic mobility; it has the best thermal conductivity of any material; and it is the most impermeable material ever discovered.

[45] UK IPO, supra note 43, at 25–27. However, some commentators overwhelmed by the sheer number are asserting that "the Middle Kingdom is on the right path to becoming the worldwide market leader in certain technological fields, such as graphene." See Luginbuehl, supra note 1, at 1.36.

[46] According to its own website (http://interbrand.com/en/about/), Interbrand was established in 1974, and is the world's leading brand consultancy, with a network of 33 offices in 27 countries.

[47] But some ranking seems to be dubious, such as the "Most Valuable 500 Brands in China" published by the "World Brand Lab," which exhibited strong irregularity (sharp fluctuation of brand values, some brands simply disappeared and mysteriously reappeared etc.) http://www.baike.com/wiki/世界品牌实验室

[48] Huawei was ranked by the Interbrand as 88th in the 100 Best Global Brands 2015 with an estimated brand value of US$4.96 billion; Lenovo ranked 100th with estimated brand value of US$4.1 billion.

(Internet companies), China Mobile and China Telecom (communications carriers), Bank of China, Industrial and Commercial Bank of China Limited, China Construction Bank, and Agricultural Bank of China (banks) or Pingan Insurance and China Life (insurance).[49] As a result, their value and competitiveness could be seriously inflated. As Interbrand bluntly points out in the Best Global Brands 2013 report, "Chinese brands with global aspirations can take important cues from others, but to truly succeed, they must find their own way forward through innovation and sound brand strategy."[50]

In the export industry, 70 % of the top 200 exporters in China work under OEM/ODM arrangement. 90 % of the joint-capital enterprises use brands owned by foreign investors. Those two figures aptly exemplify the lack of brand awareness in China.[51]

3. *Copyright Industries*[52]

As a whole, Chinese copyright industries are faced with the following difficulties: (1). Structural imbalance of goods exports. According to Customs statistics, China exported in 2011 US$ 286 billion worth of copyright-based products, of which the core copyright industries made up only US$ 5.32 billion, less than 2 % (1.86 %). The interdependent copyright industries made up 90.45 % and the partial copyright industries 7.69 % of the exported goods. These figures indicate that the export of copyright-based products relies on manufacturing. (2) Structural imbalance of services exports. The export volume of services involving the core copyright industries is meager US$8.238 billion, making up 4.53 % of the total services exports, and only 0.65 % of the total exports. (3) Long-term deficit in copyright trade.[53]

Digital publication in China faces mounting obstacles and low development, lacking new products and core technology. One report suggests that in 2012 while the US, European countries and Japan claim 43 %, 34 % and 10 % of the world

[49] WIPO takes a neutral stance towards BrandZ's report; see WIPO, Brands–Reputation and Image in the Global Marketplace, 2013, 41–44.

[50] Leslie Butterfield, China's New Brand Leaders, in the Best Global Brands 2013, 76.

[51] Wu, supra note 25, at 62.

[52] Singapore is probably the first Asian country carrying out a survey of copyright-based industries in terms of the economy with WIPO's approach. See Leo Kah Mun, Chow Kit Boey, Lee Kee Beng, Ong Chin Huat, Loy Wee Loon: The Economic Contribution of Copyright-Based Industries in Singapore: The 2004 Report, WIPO National Studies on Assessing the Economic Contribution of the Copyright-Based Industries (WIPO Publication No.624e 2006), available at: http://www.ipacademy.com.sg/site/ipa_cws/resource/executive%20summaries/Economic_Contribution_2007_Exec_Summary_Oct%202008.pdf

[53] Ibid.

cultural market share respectively, China commands less than 4 %, one tenth of that of the US.[54]

2.2 *Alienation of and Rent-Seeking Through IPRs*

It is foreseeable what the overemphasis of IPRs at the national level in an authoritarian country such as China will lead to, considering the fact that China is also the driver of an amazing economic transformation and achievement: alienation and abuse of IPRs. Due to their intangible and territorial nature, IPRs can be used by sovereign states as a virtual currency (like Bitcoins). Although turning gradually towards market mechanisms, China remains a determined party-regime. The planning, deciding, implementing and justifying of national strategy are in principle circular, self-serving and self-reinforcing. The decision is meant to vindicate the planning, the implementation is meant to vindicate the planning and decision, and all become justified in the end. However, people can make unduly high profits by knowing and gaming the regime to the detriment of public interest – rent-seeking. In China, there are ample signs of alienation of IPRs and rent-seeking through IPRs.

2.2.1 Inflation of Junk Patents Induced by Improper Subsidies and Incentives

Junk patents (including patent applications) are just as common in patent-strong countries, such as the USA. To curb the unsound patents from proliferating, the Public Patent Foundation at Benjamin Cardozo School of Law ("PUBPAT") was set up to bust undeserved US patents.[55] However, junk patents take on a whole new dimension in China, as they are induced by flawed patent policy and incentive systems.[56] Under the guidance of the NIPS, governments of all levels come up with all kinds of schemes that regard the number of filed patent applications and granted patents as Key Performance Indicator (KPI) for any possible evaluation (even for getting admission into universities, graduation from universities, etc.).[57] Higher-than-fee and indiscriminate subsidies for patent-related fees are being provided for drafting of applications, filing of applications (whether for invention, utility model

[54] Zhang Guozou, Blue Book of Cultural Soft Power (in Chinese), published by Research Center on the Soft Power of Chinese Culture, Social Sciences in China Press and Social Sciences Academic Press, 2010.

[55] http://www.pubpat.org

[56] Luginbuehl, Patent Law in Greater China, at 1.30.

[57] Luginbuehl, Patent Law in Greater China, at 1.25.

or design patent), and for annuity, which contribute to the emergence and sustaining of junk patents.[58] The resultant consequence is a flood of applications even filed by institutions which obviously have no actual need for using patents, to seek rents from governments.[59]

Junk patents are perilous in many ways: (1) Hindering innovation by raising the costs for others to do further R&D.[60] (2) Disturbing market competition and harming consumers' interest by asserting rights on competitors and forcing them to pass the extra costs on to consumers. (3) Wasting public resources by straining patent examination capacity on and/or judicial resources.[61]

2.2.2 Bizarre Ways of Creating and Using Well-Known Marks

The protection of well-known marks has gone through at least four stages.[62] The fourth and the latest stage begins with the third revision to the Trademark Act, effective since 1 May 2014, which prohibits the use of "well-known marks" in association with sale advertisements. The background for this prohibition lies exactly in the alienation of and rent-seeking through well-known marks listing. On the one hand, the Trademark Office (TMO) under the State Administration for Industry and Commerce and the Trademark Review and Adjudication Board (TRAB) have the authority to determine well-known marks upon request in application or appeal disputes. The TMO publishes on its website well-known marks that it and the TRAB have recognized at least since 25 February 2004. However, the publication makes no reference to the cases in which the marks were recognized as well known. On the other hand, the People's Intermediate Courts have the right to recognize well-known marks in disputes involving trademarks and domain names. In contrast to recognition by the TMO and the TRAB,[63] the recognition of a well-known mark by the People's Intermediate Courts is only valid for the individual case and will not be publicized. The listing of well-known marks was misused,

[58] Wen Jiachun, Study on Local Governments' Funding of Patent Fees (in Chinese), Huazhong University of Science and Technology, 2008 Ph.D thesis, 33; Wen Jiachun, Why Patent Fees Provided by Government Induce Junk Patents and Its Cure (in Chinese), Electronics IP, 2008, 27.

[59] Zhu, Dialectic Perspective of the Quantity and Quality of Chinese Patents (in Chinese), at 440.

[60] Luginbuehl, China's Patent Policy, 1.37.

[61] Wen, Study on Local Governments' Funding of Patent Fees(in Chinese), at 59.

[62] For a detailed description of the first three stages, see Kung-Chung Liu, The Use and Misuse of Well-Known Marks Listings, 40 International Review of Industrial Property and Competition Law, 685–697(June 2009).

[63] The Rules on the Recognition and Protection of Well-Known Marks of 2003 grants a general presumptive effect to the recognized well-known marks by allowing the industry and commerce authorities to rely on the (well-known marks) records in dispute cases, on the conditions that the scope of protection involved is basically the same and that the opposing party does not dispute that marks at issue are well-known or disputes without evidence rebutting the renown of the marks (Art. 12).

which led to explosive growth of well-known marks.[64] Ads boasting the advertised brands as "Chinese Well-known Marks" without context and limitation mushroomed, a phenomenon not seen elsewhere. Intermediary organizations dedicated to the creation of well-known marks have emerged and are brokering between trademark owners and officials. The 1–2 years taken on average by the TMO and the TRAB to come to a determination of a well-know mark were deemed too long by some. A quicker avenue was sought through the courts. Some trademark disputes were faked, not for the sake of solving disputes but to create "well-known marks" by colluding judges, which led to rampant corruption.[65] Again, government subsidies and even political fringe benefits were driving all this distortion.

2.2.3 Alienation of and Rent-Seeking Through Other IPRs

Under such an ecosystem of alienation and rent-seeking and lack of an objective third party valuation mechanism, it is hard to immunize other IPRs from similar problems, especially those that are used as quantitative indicators, such as the 658 plant variety rights, 3241 IC layout designs, 164,349 registered software and 845,064 registered copyrights. The only issue would be when and how will those problems be revealed and exposed.

2.2.4 Absurd Misuse of IP as Reason for Jail Sentence Commutation

Another unheard-of misuse of IP lies probably in the Chinese Criminal Code. According to Article 78 of the Chinese Criminal Code, the punishment of a criminal sentenced to public surveillance, criminal detention, fix-termed imprisonment, life imprisonment may be commuted if, while serving his/her sentence, conscientiously observes prison regulations, accepts education and reform through labor and shows the true repentance, or perform meritorious services shall be commuted if he/she performs any of the following major meritorious services: (3) having made *invention or major technical innovation*. After commutation, the term of punishment actually to be served by those sentenced to public surveillance, criminal detention, fix-termed imprisonment may not be less than half of the term originally decided; for those sentenced to life imprisonment, it may not be less than 10 years.

[64] From 1996 to October 2010, some 4485 well-known marks have been recognized and publicized.

[65] According to Jui Jin, Attorneys and Judges Colluded to Fake (in Chinese), Nanfan Weekly, 17 December 2009, A04, two judges from Xiangtan Intermediary People's Court in Hunan Province were removed from their post because of illegal determination of well-known marks in exchange for personal profit in 2009.

However, the Criminal Code does not define what constitute invention or "major technical innovation", nor has it been uniformly determined by the authorities on how to ascertain who the actual inventor or innovator was and the relationship between commutation and the types and nature of invention or "major technical innovation." As inmates are isolated from the society and can only file for invention protection through the help of patent agencies, some patent agencies have made advertisements about providing "one-stop" services to inmates ranging from application for invention patents to application for term commutation. The Hong Kong–based news media Singpao reports that one patent agency in Shaanxi province charges RMB 6800 for one utility model patent and RMB 50,000–60,000 for one invention patent.[66] According to Xinhua News, the former Vice Chairman of the Chinese Football Association, Nan Yong, previously convicted of bribery for 10 years and six months, was granted a commutation of 1 year due to invention he acquired while serving his sentence.[67] However, details remained unclear with regards to the invention Nan Yong had acquired. Sadly, IP has become an instrument for arbitrary discretion of the authorities.

3 Root Cause of the Discussed Problems: Misplaced Government Functions That Create Rents

3.1 The Vice Starts from the Central Government

The idea of separation of power between governmental agencies and the separation between government and market is alien to the Chinese communist party, which assumes a holistic approach towards governance. Government is entitled to intervene in every aspect of market operation, and only too easily. Government takes upon itself economic responsibility and holds officials accountable for the performance of market that is under its tight control. That led to speedy large-scale city development, infrastructure roll-out and economic growth, but not without huge costs. In addition to the market failure, public goods nature of IPRs that the government is supposed to remedy, a government failure of "Chinese characteristic"emerges. The ubiquitously visible hands of the government constrain the invisible hands of the market and greatly hinder further social and economic development.[68] It is the government that creates rents, which in turn lures people

[66] http://www.singpao.com/xw/nd/201501/t20150120_545854.html

[67] http://news.xinhuanet.com/sports/2014-12/06/c_127282087.htm

[68] He Wei, The Political and Economic Analysis of Rent-seeking (in Chinese, Ph. D thesis of Shanghai University of Finance and Economics),1998,4;Wu Quoping, The Governmental Role in the Chinese IPRS Strategy(in Chinese), 16 China Intellectual Property No.6, 39–40(June 2006); Qin Quozong, Between Not Doing and Doing: Governmental Role under Market Circumstances of Chinese Characteristic (in Chinese), 2011Fa-zhi-yan-jiu (法治研究), No.5, 58–59.

to seek rents from the government. In that process money changes hands, IPRs alienated and diluted.

Government creates rent via providing all kinds of subsidies, monetary rewards and preferential tax treatment. Rents can also be set by bundling career promotion of people from the public sector (government agencies, universities, state-run businesses, party organizations, etc.) with their application for and acquisition of IPRs. IPRs thus created are not the result of market needs and would therefore not be exploited commercially, which explains why so many patents granted to universities were soon abandoned after the grant.[69]

3.2 Provincial and Local Governments Overdo Everything

The issue of rent-creation worsens in the lower governments. Under a centralized party state regime, officials are ranked and paid in descending order from central, to provincial and local governments. As a result, Chinese local officials always look for promotion to higher governmental levels. Local credentials provide local officials bargaining power to demand more resources and support from higher-level governments which in turn could be used as leverage to secure their later promotion.[70] Therefore local governments and officials are incentivized to even outdo higher-level governments in creating rents, whether in the implementation of the NIPS or any other national strategies.

4 The Policy for Quality Control of Patents Doomed to Fail?

In 2014, the Office of the Inter-Ministerial Joint Meeting for Implementation of the National Intellectual Property Strategy announced "The Promotion Plan for the Implementation of the National Intellectual Property Strategy in 2014" ("2014 Promotion Plan") and listed "Raising the Intellectual Property Creation Quality" as its top priority among other four goals: improving verification and evaluation system for IPRs, and raising the pertinence and efficiency of IPR creation; optimizing the policy orientation for enhancing the quality of patent applications and strengthening the supervision on the quality of patent applications; improving examinations of various IP rights, strengthening the quality

[69] Hu Hua et al., Analysis of Traditional Chinese Culture's Impact on the Quality of Domestic Patents (in Chinese), 2010 Science and Technology Management Study, No.16, 255.

[70] Hu Hua et al., Analysis of Traditional Chinese Culture's Impact on the Quality of Domestic Patents (in Chinese), 254.

management, raising the examination efficiency; and upgrading the IP creation capability of innovators and enhancing IP rollout in key fields. It foresees to undertake the following two measures among others that target the improvement of patent quality: (1) To implement the "Opinions on Further Improving the Quality of Patent Applications" promulgated by SIPO, in order to optimize that the evaluation orientation of regional patents, to improve general patent subsidy policy, to implement special patent subsidy policy, to stand out the quality orientation of award policy for patents and to promote the integration of patent quality index into relevant policies. (2) To establish the oversight system for facilitating the quality improvement of patent applications, to strengthen the monitoring and handling of low quality patent applications, to develop the credential database for patent applicants, to seriously handle the cases involving swindling patent subsidies and awards and to explore the establishment of the quality monitoring mechanism for patent applications and its feedback mechanism.

It is fair to say that the "2014 Promotion Plan" acknowledges the issues of low quality patents and the underlying rent-seeking and that this is to be duly credited to the Commissioner of the SIPO, Dr. Shen Changyu (since December 2013). However, it remains to be seen whether the "2014 Promotion Plan" can be implemented and to what extent by provincial and local governments. What is more worrying is the "The Action Plan for 2014–2020," which was released after the "2014 Promotion Plan" and by the highest administrative agency in China, the State Council. It seems to find itself on a collision tract with the "2014 Promotion Plan" because although the growth in absolute number of patents is no longer targeted, it sets other specifically quantified targets: invention patent per 10,000 inhabitants shall keep rising to 14 in 2020, 2.8 times to grow from the current 4.9 in just less than 6 years! The average annuity term for invention patent shall be extended to 9 years, a formidable 50 % increase! Once the goals are fixed, it is submitted that the Chinese governments of all levels will strife to meet those goals at all costs. Logically, subsidies and fringe benefits of all kinds will be summoned and poured into the "production" of invention patents and the annuity fee for 9 years will be a standardized request for and grant of government support. All in all, this can only lead to the distortion of reality which culminates in 2020!

5 Conclusion

To date, IPRs in China are a mixture of market-oriented innovation and policy-induced rent-seeking. There is no quantifiable mechanism to measure the exact composition of the mixture, however arguably the latter overtakes the former. "The Action Plan for 2014–2020" will inevitably magnify the policy-induced rent-seeking activities. Although it's high time for China to conduct a mid-term review and reality check of the NIPS and all of its ramifications after 7 years of implementation, one would doubt whether it stands any chance to correct the wrong path, given the gravity of the "The Action Plan for 2014–2020." All odds

notwithstanding, the international IP community should provide help to China to conduct a neutral mid-term review. It is also incumbent on the international IP community to remind China that it should act in an IP-ecosystem friendly way by reducing the production and emission of junk IPRs to the rest of the world.

This chapter shows that in terms of quantifiable measurement for evaluating the success rate of the NIPS, China succeeds in number and ranks as world number one in filed applications for three kinds of patent since 2010. It is also world leader in filed applications for trademark registration since 2001 and has an accumulated registration of 6.4 million trademarks that no other country can rival. However, China has not fared well in establishing world-famous brands because so far only two Chinese brands have been included in the more creditable the Best Global Brands published by Interbrand. Nor has the goal of greatly increasing the GDP proportion accounted for by core copyright industries been reached, since it only grew by 0.27 % of GDP (from 6.4 % of GDP in 2006 to 6.67 % in 2011) in 5 years.

In addition, it is hard to ascertain whether the goal for China to own "a number of high-quality new plant variety rights and high-level integrated circuits layout-designs" has been neared, and whether the statistics that patent-intensive industries in China account for 25.1 % of the GDP (vs. 34.8 % in the USA in 2010) are creditable, since China lacks IPR valuation mechanisms. It is suggested that the root cause of the discussed problems lies in the misplaced government functions that create rents and rent-seeking. It is worth exploring whether the ex ante monetary subsidies for applied IPRs should be replaced by ex post tax deduction for granted IPRs[71] as a first step to curb rent-seeking. Ex post tax deduction for granted IPRs has more merits in that it requires companies to have first made genuine transactions and revenues reaching the threshold of having to pay tax before they can file for tax deduction.

[71] In Singapore any fees paid to any IP Office, any agent for IP prosecution, preparation of specifications and validity or infringement advice are tax-deductible at 100 % under the Income Tax, and 400 % deductible under the Productivity and Innovation Credit Scheme; see IPOS, IP Hub Master Plan, 2013, 4.2.12.