

# A DEFENSE OF UTILITY MODELS: THE CASE OF CHINA

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*Utility models are a type of exclusive rights provided to inventors or innovators in a comparatively short amount of time as a complement of regular patents. Utility models are cheap, quick, and easy to gain because they lack a process of examining the non-obvious. However, there are many criticisms on utility models and utility model regimes. This paper revisits these criticisms and the utility model regime in China. It explains why this regime is important to facilitate the domestic technology developers and responds the economic and political concerns from the previous scholars considering the cases in developed countries rather than a case in a developing country.*

Major industrial nations, such as Japan and Germany, have adopted utility model regimes. The World Intellectual Property Organization (WIPO) defines utility models like patents, but issued for a shorter duration and granted without substantive examination.<sup>1</sup> However, the number of worldwide applications of utility models is almost four to seven times less than the number of patent applications between 2008 and 2010,<sup>2</sup> and several offices experienced absolute decreases in applications, such as the offices of Austria (-12.4%) and Germany (-3.3%) in 2012, while others have seen a slowing in the rate of application growth in recent years.<sup>3</sup>

The majority of utility model applications across the world have originated from China since 2003.<sup>4</sup> In China, the system is mainly (at 98%) used by residents to seek protection within China.<sup>5</sup> Furthermore, the number of utility model applications has averaged over 20% more than the number of patent applications in the past twenty years, while the rate of the growth of

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1 World Intellectual Property Organization (WIPO), *WIPO IP Facts and Figures*, 2012.

2 *Ibid.*

3 World Intellectual Property Organization (WIPO), *Patents, Utility Models and Microorganisms*, 2013.

4 *Ibid.*

5 *Ibid.*

non-resident applications decreased in 2013.<sup>6</sup>

Why are utility model patents in China much more popular than in other countries? Why does the US not have a utility model regime? Indeed, Mark Janis has precisely analyzed the regime and criticized it since it is overprotective and raises transaction costs.<sup>7</sup> His analysis of not building a utility model regime in the US is fairly persuasive to many scholars,<sup>8</sup> so there has been less and less American literature discussing this topic. This trend is also passed on to other countries, and some scholars applied his theory to criticize the countries having had utility model regimes for years. China, as a country with a large population, large market and large applications of utility models, inevitably is one of the targets of criticism. However, are these criticisms valid? All coins have two sides. The experiences of Japan, Brazil, and the Philippines show that utility models can be an important source of technical change and information diffusion, especially in developing countries.<sup>9</sup>

This paper takes China as a case study to show how a utility model regime could be appropriately adopted for China, especially to influence the growth of R&D behavior of small and medium-sized enterprises (SMEs). Part 1 introduces the main critiques of the utility model regime from some vital scholars. To impartially judge the utility model regime, art 2 clarifies its characteristics and the key features of utility model law in China. Then, Part 3 expands upon the controversial arguments and data evidence to specifically show how the current regime affects the economy, politics, innovation, markets, and SMEs in many countries, especially in China. The last part explains whether non-substantive examination, the significant core factor of the utility model regime, should be a reasonably criticized point.

### **A Costly and Valueless Utility Model Regime—A Traditional View**

While a utility model regime is popularly applied in many countries, the U.S. does not have an interest in building one.<sup>10</sup> This is because of its high cost of construction and limited value to American inventors and innovators. Janis did a cost and benefit analysis of constructing a utility model regime in the

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6 State Intellectual Property Office of the P.R.C., “Statistic Information,” 2015, <http://www.sipo.gov.cn/tjxx/> (accessed November 11, 2015)

7 Mark D. Janis, “Second Tier Patent Protection,” *Harv. Int’l. L. J.* 40 (1999): 151.

8 *Ibid.*

9 Keith E. Maskus, “Lessons from Studying the International Economics of Intellectual Property Rights,” *Vand. L. Rev.* 53 (2000): 2238.

10 Runhua Wang, “Utility Models Revisited: The Case of Investing in China,” *Elect. U.ILL. J. L. Tech. & Pol’y*, 2015, November 6, 2015, <http://illinoisjltp.com/timelytech/utility-models-revisited-the-case-of-investing-in-china/> (accessed December 13, 2015).

US, and his study shows how costly and valueless it is to build a utility model regime in the US.<sup>11</sup> Even though the regime would have lower registration fees and provide more monopoly protection, he believes that the acquisition cost of this new regime is higher than its benefits.<sup>12</sup>

The absence of substantive examination will cause additional patent attorney fees for the applicants who expect a skillful drafting of their claims, and higher litigation cost, but not enough compensation.<sup>13</sup> A further obstacle would be the additional costs of protecting technology development created by the different responsibilities between the two types of regimes.<sup>14</sup> The cost of examining the obviousness of the technology in the process of substantive examination could be shifted to the judiciary.<sup>15</sup> Thus, Janis claims that a second-tier protection system like this undermines the goal of providing quick and low cost protection.<sup>16</sup>

With concerns about the market, Janis strongly doubts if the utility model regime over provides property rights and improperly abuses commercially feasible options.<sup>17</sup> This would result in too much collective licensing, which would kill many free transactions of technologies in the market and result in an inefficient market of technology transfers.<sup>18</sup>

The increasing inventions rewarded by a utility regime are the obvious improvements of technology existing in public domains or anti-commons property, the cost of which could be uncertain.<sup>19</sup> Therefore, Janis worries over their future in the market where, “uncertainty over both the value of the invention and the scope of claims may represent an insurmountable obstacle to efficient bargaining even for utility patents.”<sup>20</sup>

Even if SMEs can cooperate with other inventors or innovators with relatively higher innovation capabilities through a collective licensing mechanism with copyrights and patents,<sup>21</sup> Janis argues that the probable anti-commons phenomena would blight this licensing mechanism by

11 Janis, “Second Tier Patent Protection,” 151.

12 *Ibid.*, 180.

13 *Ibid.*, 185-186.

14 *Ibid.*, 182.

15 *Ibid.*, 186. (“In a second tier patent regime without pre-grant substantive examination, the responsibility for applying the substantive standards of patentability is shifted to the judiciary, and the costs are correspondingly borne by the litigants”).

16 *Ibid.*, 189.

17 *Ibid.*, 217.

18 *Ibid.*, 206.

19 *Ibid.*, 188.

20 *Ibid.*, 202, 204. (“Effectively, neither of the owners has a commercially meaningful privilege of use; the bundle of commercially meaningful rights has been fragmented.”)

21 Robert P. Mergers, “Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations,” *Cal. L. Rev.* 84 (1996): 1293.

transacting technologies inefficiently.<sup>22</sup> Reichman agrees that a licensing world involving utility models will seriously disadvantage new entrants relative to incumbents under an “over-protectionist IP (Intellectual Property) regime.”<sup>23</sup> Therefore, Janis suggests that utility model regimes can only be properly adopted to cure market failure caused by the inability of IP regimes which cannot fairly compensate innovative industrial developers for their endeavors.<sup>24</sup>

Hence, the nature of the mechanism is recognized as a “post-grant administrative revocation procedure” by Janis, and the U.S. can either improve the speed of patent issuance instead of setting a new regime of second-tier protection or use case laws to evaluate “protectability” of the technologies as utility models.<sup>25</sup>

Mark Zhai has expanded and applied Janis’s opinions to heavily criticize the utility model regime in China.<sup>26</sup> Zhai argues that “junk patents” without substantive examination provide unfair advantages for local companies. He claims that China cannot continue to sustain economic growth by only absorbing technology from foreign sources and that the regime lacks economic means in China.<sup>27</sup>

While the cost of registration and maintenance of a utility model is only a fraction of that of a regular patent, there are high transaction costs to practice it, such as prosecution uncertainty, litigation inefficiency, and licensing clearance costs.<sup>28</sup> The uncertainty costs also apply to foreign investors trying to license or get a license for technologies in the Chinese market.<sup>29</sup> In order to control the uncertainty cost, foreign investors have to deal with the higher costs of due diligence, so Zhai worries that they may

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22 Janis, “Second Tier Patent Protection,” 202, 204.

23 Jerome H. Reichman, “Intellectual Property in the Twenty-First Century: Will the Developing Countries Lead or Follow?” in *Intellectual Property Rights: Legal and Economic Challenges for Development*, ed. Mario Cimoli et al. (Oxford University Press, 2014), 116. (“Such regimes also enable large corporations that are sometimes slothful innovators to accumulate pools of cross-licensed patents that create barriers to entry for the truly innovative small and medium-sized firms”).

24 Janis, “Second Tier Patent Protection,” 217.

25 *Ibid.*, 189; Rudolf Krasser, “Development in Utility Model Law,” *JIC*. 260 (1995): 955. Krasser agrees with Janis’s analysis of uncertainty costs, increased judicial costs, over-protection and anti-commons worries.

26 Mark Shiqian Zhai, “The Chinese Utility Model Patent Is Destroying Innovation in China,” *AIPLA Q. J.* 39 (2011): 413.

27 *Ibid.*, 415, 426, 429, 430.

28 *Ibid.*, 427.

29 *Ibid.*, 417, 429. (If high due diligence cost “becomes the new cost to doing business in China, how long will it take before foreign companies pull out of the Chinese market completely?”).

completely pull out of the Chinese market.<sup>30</sup> In addition, following Janis' concerns about anti-commons, Zhai predicts that the regime will potentially slow progress and may even deprive the value or utility of prior inventions so as to impede all foreign and domestic innovations.<sup>31</sup>

Generally speaking, most criticisms on the utility model are about the extra transaction costs and its probable negative effects on the efficiency of the whole patent system.<sup>32</sup> However, the above conclusions may not always be absolute for all countries at different levels of economic development. It is essential to analyze the significance of having a utility model regime by examining the case of China.

### Utility Model Characteristics and How It Runs in China

Utility model is a generic term that refers to the subject matter that falls between patent law or sui generis design law.<sup>33</sup> However, there is no global consensus on the term's meaning due to fundamentally different concepts from one country to another.<sup>34</sup> For example, it is defined as "innovation patent" in Australia, "utility certificate" in France, "short term patent" in Belgium, or as "utility innovation" in Malaysia.<sup>35</sup> Thus, it is necessary to review the nature of these systems by looking at the characteristics of some typical utility model regime designs.<sup>36</sup>

The United Kingdom's Utility Designs Act of 1843 was the earliest classical utility model regime.<sup>37</sup> The act protected design shape or configuration of useful articles of manufacture that were literally remote from regular patent protection.<sup>38</sup> However, in 1919, it was reduced to insignificance by a series of judicial and legislative actions.<sup>39</sup> The reason for its failure may have

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30 Ibid., 429.

31 Ibid., 431-432. See also Janis, "Second Tier Patent Protection," 201-202. ("An anti-commons exists where multiple individuals own rights to exclude others from an object resource, such that no one has an effective privilege of using the resource").

32 Mark A. Lemley, "The Economics of Improvement in Intellectual Property Law," *Tex. L. Rev.* 75 (1997): 1008.

33 Uma Suthersanen, Graham Dutfield, and Kit Boey Chow, "Utility Models and Other Alternatives to Patents," in *Innovation without Patents, Harnessing the Creative Spirit in a Diverse World*, 2007, 18.

34 Ibid.

35 Ibid.

36 Wang, "Utility Models Revisited: The Case of Investing in China."

37 Lionel Bently and Brad Sherman, "The United Kingdom's Forgotten Utility Model: The Utility Designs Act of 1943," *Intell. Prop. Q.* 3 (1997): 265. Both Janis and Tabrez Ahmad & Pratic Priyadarshi Choudhury agree with this judgment. See also Tabrez Ahmad and Pratic Priyadarshi Choudhury, *Utility Model Protection: Harnessing the Backwaters of IP*, 2012.

38 Ibid.

39 Ibid.

been the many criticisms of the regime. For instance, it provided narrow protection to external appearance or “form”, but not function or principle; therefore, there were many arguments for extending its scope to functional equivalents of the embodiments that the drawing illustrates.<sup>40</sup>

The German utility model regime is called *Gebrauchsmuster*. Different from the English one, this regime remains firmly and essentially a creature of design protection in 1891.<sup>41</sup> It became a prototype of a classical utility model regime with its lack of a pre-grant examination, limitation of subject matter to only movable articles having three dimensions, and very short-term of protection.<sup>42</sup> The classical utility model regime was progressively abandoned and developed into a modern second-tier patent regime to complement the regular patent regime.<sup>43</sup> In 1990, Germany abolished the requirement of a three-dimensional configuration and broadened the subject matter to protect electronic circuit designs, chemical substances, foodstuffs and drugs beyond immovables.<sup>44</sup> With the amendments, the German utility model regime became not merely about protecting designs,<sup>45</sup> but was transformed into a longer and stronger regime, providing patent-like protections of small inventions.<sup>46</sup> The qualified protected inventions become less strictly tied to three-dimensional, functional shapes of tools or everyday implements.<sup>47</sup>

In most countries with a utility model, regimes do not require substantive examination.<sup>48</sup> This turns the application process of a utility model into a registration process, which is obviously simpler and faster than an application process including an examination for non-obviousness.<sup>49</sup> However, utility models do require novelty.<sup>50</sup>

Based on the discussed common characteristics of a utility model regime, utility models are fairly defined as “subpatentable innovations,”

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40 Janis, “Second Tier Patent Protection,” 156.

41 *Ibid.*, 158-159.

42 *Ibid.*, 158. Three years from the application date, renewable for an additional three-year term.

43 *Ibid.*, 155, 162-163.

44 *Ibid.*, 164.

45 J.H. Reichman, “Legal Hybrids between the Patent and Copyright Paradigms,” *Colum. L. Rev.* 94 (1994): 2457.

46 *Ibid.*, 165. See also, J.H. Reichman, “Charting the Collapse of the Patent Copyright Dichotomy: Premises for a Restructured International Intellectual Property System,” *Cardozo Arts & Ent. L. J.* 13 (n.d.): 500.

47 Wang, “Utility Models Revisited: The Case of Investing in China.”

48 Tabrez Ahmad and Pratik Priyadarshi Choudhury, *Utility Model Protection: Harnessing the Backwaters of IP*, 2012, 5.

49 Janis, “Second Tier Patent Protection,” 161.

50 Heather Ann Forrest, “Utility Model : Widening the Economic Divide between ‘Legacy’ and ‘New’ EU Member States,” *Int’l Bus. Law* 32 (2004): 217.

which, combined with early disclosure of regular patent applications and narrow interpretation of claims, allow local firms to invent around foreign innovations.<sup>51</sup> Fortunately, this series of rules to favor surrounding inventions is excluded from the restriction of TRIPS Article 31 for dependency patents to favor developing countries.<sup>52</sup>

In order to respond to Zhai's criticism of the "unfair benefits" to developing countries, especially China, it is necessary to read through and compare the main rules of application and enforcement for utility models and patents.

Utility models are categorized as a type of "patent" under Chinese law,<sup>53</sup> with practical and new technical solutions relating to a product's shape, structure, or combination of the two.<sup>54</sup> The Chinese laws that regulate utility models include the PRC Patent Law ("Patent Law"), the Rules for the Implementation of the Patent Law ("the Rules") and the Guide of Patent Examination ("the Guide"). The latter two explain the terms in "Patent Law."<sup>55</sup>

The Guide regulates that the subject matter of utility models has to be attached to products.<sup>56</sup> Method claims can only be protected under regular patents rather than utility models.<sup>57</sup> The length of protection is 20 years from the date of filing for regular patents, but only 10 years for utility models.<sup>58</sup> Both types of rights require novelty, inventiveness and utility,<sup>59</sup> but the standards of examination for them are slightly different.<sup>60</sup>

The State Intellectual Property Office of the PRC (SIPO) conducts a preliminary examination to determine conformity with proper procedure and qualification for the requirement of utility and novelty.<sup>61</sup> When a

51 Sean A. Pager, "Patents on a Shoestring: Making Patent Protection Work for Developing Countries," *Ga. St. U.L. Rev.* 23 (n.d.): 755.

52 Wang, "Utility Models Revisited: The Case of Investing in China."

53 Hong Liu & Jun Wei, *Technology Transfer to China: The Patent System*, 5 Santa Clara Computer & High Tech L. J. 363, 373 (1989). They looked earlier draft of China's Patent Law that says "'Working a patent' means the manufacture of the invention, utility model or design, or use of the patented process." Gradually, it becomes general knowledge that people in China call patent for all three kinds of invention. The current draft of the 2009 Patent Law in China still states that "inventions-creations" means inventions, utility models and designs" in Article 2.

54 The Standing Comm. Nat'l People's Cong., *Law on Patent* (China, 2009), Article 2.

55 Wang, "Utility Models Revisited: The Case of Investing in China."

56 SIPO, *The Guide of Patent Examination* (China, 2010), Section 1, Chapter 2, Article 6.1.

57 *Ibid.*, Section 1, Chapter 2, Article 6.3; The Standing Comm. Nat'l People's Cong., *Law on Patent*, Article 2.

58 *Ibid.*, Article 42.

59 *Ibid.*, Article 22. The inventiveness is equivalent to the non-obviousness requirement in USPTO (U.S. Patent and Trademark Office) because of the difference of translation.

60 Xiaoqing Feng, "The Interaction between Enhancing the Capacity for Independent Innovation and Patent Protection: A Perspective on the Third Amendment to the Patent Law of the P.R. China," *Pitt. J. Tech. L. & Pol'y* 9 (2009): 52.

61 Hong Liu and Jun Wei, "Technology Transfer to China: The Patent System," *Santa Clara Computer*

utility model application passes this preliminary examination, it should be published and issued on the same day.<sup>62</sup> The rules regarding compulsory licenses or six-month grace period for regular patents and utility models are not distinguishable.<sup>63</sup> Both of them must satisfy the same standards of novelty when searching prior arts and have practical applicability to meet the standard of utility.<sup>64</sup> However, only regular patents require a substantive examination as a condition of issuance.<sup>65</sup> In terms of enforcement, courts or administrative authorities can ask for a patent examination report from SIPO as evidence in a utility model infringement dispute. SIPO is authorized to search, analyze, and evaluate the technology from the request of the patentee or an interest-related party.<sup>66</sup>

An applicant is allowed to file both a utility model and a regular patent application for an identical invention on the same day.<sup>67</sup> In order to acquire a regular patent, however, an applicant must abandon the previously obtained utility model.<sup>68</sup>

## Effects of Utility Model Regimes: Exterior and Interior Concerns

### *Economic and Political Concerns*

According to the criticisms by Zhai and Janis, various high transaction costs are the drawbacks of having a utility model regime. However, in reality these costs can exist in differing degrees. In the case of China, interior transaction costs for applicants do not completely exist. First, the additional cost of drafting a utility model through an attorney would not be a problem. The Guide clearly regulates the requirement of preliminary examination. If an applicant tries to gain advantage when getting a patent by making a better draft of claims, it should be more popular to do so through the process of substantive examination for a regular patent application. An application for a regular patent also has this process, so if Janis really assumes that skillful drafting tricks can work during preliminary examination,<sup>69</sup> then the

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& *High Tech. L. J.* 5 (1989): 367; SIPO, *The Guide of Patent Examination.*, Section 1, Chapter 2, Article 7.4.

62 The Standing Comm. Nat'l People's Cong., *Law on Patent*, Article 40.

63 *Ibid.*, Article 24, Article 51; SIPO, *The Guide of Patent Examination*, Section 1, Chapter 2, Article 7.3.

64 *Ibid.*, Article 22; Liu and Wei, "Technology Transfer to China: The Patent System," 364.

65 *Ibid.*, Article 35.

66 *Ibid.*, Article 61; St. Council, *The Rules for the Implementation of the Patent Law* (China, 2010), Section 5, Chapter 5, Article 2.3.

67 *Ibid.*

68 *Ibid.*; The Standing Comm. Nat'l People's Cong., *Law on Patent* Article 9.

69 Janis, "Second Tier Patent Protection," 180-181.

high agent cost for application would be inevitable when pursuing any type of patent protection. Thus, this process should not be counted as an extra cost for a utility model regime.

Second, the “long-term transaction costs” exist in some circumstances, especially in some developing countries where the litigation system is not robust enough to ensure the efficient protection.<sup>70</sup> Of the patent invalidity proceedings brought in China, 95% were filed against utility model patents, and approximately 60% of all utility model patents were declared invalid in China.<sup>71</sup> However, this is outdated evidence from before 1991,<sup>72</sup> and the current invalid rate of utility model patents in China is approximately 0.9%.<sup>73</sup> If the market judges the current utility model regime as efficient, transaction costs will not be a disaster but be covered by its benefits and demands.<sup>74</sup>

Besides the discussed internal costs, effects on the external environment and other third parties must be considered. For example, the Commission of the European Community stressed the economic need for the expansion of a utility model regime across Europe in 1995.<sup>75</sup> Increasingly efficient access to technologies brought by this kind of regime could be useful for EU members with weaker and less technologically based economies.<sup>76</sup> The Economic and Social Committee further recognized their contribution to EU development by boosting investment in R&D.<sup>77</sup>

This is not limited to Europe, as many other industrial countries and other heavy intellectual property importer countries have demands for second-tier patent regimes like utility model regimes.<sup>78</sup> Reichman even predicts that there is a trend towards enacting such regimes in developing countries.<sup>79</sup> For a stronger connection between developing countries and the worldwide flow of scientific and technical information, utility model regimes would need to

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70 *Ibid.*, 196. (“Utility model protection relies so heavily on adjudication through the court system, and multinationals may believe that many developing countries lack the infrastructure that would be required for reliable adjudication of utility model claims”).

71 Peter A. Cummings, “From Germany to Australia: Opportunity for a Second Tier Patent System in the United States,” *Mich. St. U. Coll. L. J. Int’l L.* 18 (n.d.): 319; Zhai, “The Chinese Utility Model,” 427.

72 Uma Suthersanen, *Utility Models and Innovation in Developing Countries*, 2006, 21. Suthersanen made note 66 for the source of the data.

73 State Intellectual Property Office of The P.R.C.’s Department of Program and Development, *Annual Valid Chinese Patent Report*, 2012.

74 *Infra* Part 3.1.2 & Part 3.1.3.

75 Commission of the European Communities, *Green Paper: The Protection of Utility Models in the Single Market*, 1995, 12.

76 Forrest, “Utility Model,” 218.

77 *Ibid.*, 217.

78 Suthersanen, *Utility Models and Innovation in Developing Countries*, 6.

79 Reichman, “Intellectual Property,” 1129.

share locally generated scientific data with the world.<sup>80</sup> The result would be the stimulation of investment in the production of knowledge goods through access to knowledge.<sup>81</sup> Thus, this regime is important for economic growth and human welfare in every state of economic development.<sup>82</sup>

Janis agrees that the idea of connecting nations coincides with the characteristic scholarly assertion that utility model protection is important for the domestic economy at the beginning of a country's industrialization.<sup>83</sup> Meanwhile, he worries the inefficient redundant efforts inside these regimes will end up in long run rent dissipation within the developed economies.<sup>84</sup> This concern is understandable and fair because developed countries can receive more benefits from international connections and corporations through international conventions.<sup>85</sup> The nature of conventions or covenants like TRIPs undeniably mandates a relatively high floor of substantive protection so as to force developing countries with limited discretion to modulate their standards.<sup>86</sup> Therefore, developing countries should feel no compunction in designing a regime favoring their own interests.<sup>87</sup>

In concrete terms, "emerging economics will not reach their full economic potential without adequate intellectual property regimes."<sup>88</sup> Reichman warns technology-exporting countries that if utility model regimes are adopted for short-term advantages to reach for high levels of international protection, they risk maintaining their technological superiority and the payment advantages would invert over time.<sup>89</sup> Comparatively, technology-importing countries can strengthen their own innovative capabilities so as to benefit from existing international conventions and may even have a chance to challenge and compete with those advanced technology-exporting countries possessing pre-existing comparative advantages.<sup>90</sup> Gradually, these emerging economics, especially the high and middle-income developing countries, will become major competitors with technology-exporting countries.<sup>91</sup>

This is not the end of the argument about patent regimes. Janis further

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80 *Ibid.*, 45.

81 *Ibid.*

82 *Ibid.*, 46.

83 Janis, "Second Tier Patent Protection," 194.

84 *Ibid.*, 213.

85 Pager, "Patents on a Shoestring," 759.

86 *Ibid.*, 805.

87 *Ibid.*, 806.

88 Reichman, "Intellectual Property," 1117.

89 *Ibid.*, 1119.

90 *Ibid.*, 1121.

91 *Ibid.*, 1117, 1121. Here the emerging economies are exemplified by BRIP groups to challenge OECD countries.

argues that for a country involved in the international environment, a weak patent regime deters the improvement of domestic productivity, most of which is created by access to international technologies, intermediate inputs, and producer services.<sup>92</sup> Truly, production capability is always an important factor for technical development in a country,<sup>93</sup> especially in a developing country which could transform into a developed country through acquisition of technologies.<sup>94</sup> However, Reichman follows traditionalists to recommend a greater use of utility model laws in developing countries because such a regime often proves better than nothing, even though it has many limits and weaknesses.<sup>95</sup>

Furthermore, the EU Commission publicly suggested that the lack of a European-wide utility model in the European Patent Convention was a weakness.<sup>96</sup> Many scholars believe that the German utility model system facilitated economic advancement from developing to developed country status.<sup>97</sup> Also, empirical evidence shows that a combination of relatively weak IP rights protection and the availability of second-tier patents like utility models and design patents encourages technical improvement.<sup>98</sup> It will have benefits for the people who challenge a weak patent regime because it increases the cumulative cost of litigation,<sup>99</sup> or because it brings unfair benefits to a country where industries lack the ability to independently innovate.<sup>100</sup>

In sum, the robust American model of applying a strong non-obviousness requirement<sup>101</sup> is inappropriate for most developing countries.<sup>102</sup> Defining utility model patents as junk patents,<sup>103</sup> Zhai is wrong to consider the lack of economic means of the utility model regime in China by saying it is a fully developed country.<sup>104</sup> There is both no persuasive evidence to define the Chinese economy according to his perspective nor to reject the idea of

92 Keith E. Maskus, *Intellectual Property Rights in the Global Economy*, 2000, 204.

93 T Srinivasan, 3A: *Handbook of Development Economics*, 1995, 2238.

94 Pager, "Patents on a Shoestring," 761.

95 Reichman, "Intellectual Property," 1129-1130.

96 Philip Leith, *Harmonisation of Intellectual Property in Europe: A Case Study of Patent Procedure*, 1998, 117.

97 Suthersanen, Dutfield, and Chow, "Utility Models and Other Alternatives to Patents," 30.

98 Suthersanen, *Utility Models and Innovation in Developing Countries*, 8.

99 The degree of influence varies from to the fields of industry, such as badly in information technology and biotechnology sectors. Reichman, "Intellectual Property," 1120-1121.

100 Zhai, "The Chinese Utility Model," 425.

101 Janis, "Second Tier Patent Protection," 161.

102 Maskus, "Lessons from Studying the International Economics of Intellectual Property Rights," 202; *infra*, Part 3.3.

103 Zhai, "The Chinese Utility Model," 429.

104 *Ibid.*, 430.

a utility model regime in a developed economy. Janis's study lacks similar evidence.<sup>105</sup>

According to Reichman, "IP systems are more than just pieces of legislation, and may best be viewed as public policy regulatory institutions."<sup>106</sup> During the first hundred years of development, the U.S. refused to respect international intellectual property rights in order to have the freedom to imitate British innovations and put them on the market for the future of its social and economic development.<sup>107</sup> In reality, the realm of IP rights is always viewed as a collection of national policies or being supportive of and complementary to adequate national policies.<sup>108</sup>

Some countries may use a utility model regime to strengthen their weak patent regime or because they cannot adapt to the standard patent regime<sup>109</sup> adopted by developed countries. Since it offers easily accessible monopoly protection and other rewards, it can be considered a proper subsidy policy for local private entities, as opposed to direct subsidization.<sup>110</sup> Therefore, developing countries should reasonably be free to tailor their own regime around particular industries to comparatively favor local innovators.<sup>111</sup>

In China's case, there is an important legislative trend to encourage people's enthusiasm for inventing, and the utility model regime is a necessary element in this trend.<sup>112</sup> Alternatively, if China did not have such a second-tier patent regime, in order to take advantage by free riding the technologies produced by other countries because of a lack of the ability to independently innovate, it may have to sacrifice the whole patent regime to a weak one in order to take advantage from the technologies produced by other countries. Therefore, a utility model system seems to be an intelligent policy for China to help it transfer from a dependent-innovating country to an independent-innovating country. This double-edged policy can be intentionally adjusted to be weak or robust according to government goals while simultaneously not

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105 Janis, "Second Tier Patent Protection," 195. For example, in Japan's case, Janis found little causal evidence that the existence of a utility model regime has contributed to its rise to economic prominence, so he concluded that a regular patent regime like that in the U.S. is better than having a utility model regime.

106 Reichman, "Intellectual Property," 1123.

107 William Pretorius, "TRIPs and the Developing Countries—How Level Is the Playing Field?," *International Intellectual Property Law & Policy* 7 (2002): 80–82.

108 Srinivasan, 2283.

109 Janis, "Second Tier Patent Protection," 161. Janis realized that the disappearance of utility models was disastrous for some countries because it could reduce the non-obviousness standard in their weak patent system future.

110 Pager, "Patents on a Shoestring," 799.

111 *Ibid.*, 804.

112 Feng, "The Interaction between Enhancing the Capacity for Independent Innovation and Patent Protection: A Perspective on the Third Amendment to the Patent Law of the P.R. China," 61.

influencing the improvement of the regular patent system in order to meet various international trade requirements.

*Utility Model Promotes or Eliminates Innovation?*

A survey conducted by the EU Commission in 2004 shows that Finland, Denmark, Sweden and Germany had strong innovation.<sup>113</sup> Among them, Finland and Denmark's utility model regimes are relatively young, and Sweden does not have a utility model regime.<sup>114</sup> Comparatively, Italy and Spain, the countries with much longer histories of having utility model regimes, are shown to have weak innovation systems.<sup>115</sup> In early 20th century Japan, innovations may not necessarily have been encouraged by the utility model regime because the feature of non-examination was only introduced in 1993 when its registrations were declining.<sup>116</sup> Actually, filing figures are not enough to represent a country's innovation. The evidence of the decreased number of filed utility models in China is not stronger than that of R&D expenditures. Also, there are no existing theories or governments in practice using a utility model regime merely for encouraging applications. While the positive effects on innovation may not extend to everywhere in the world, this should not mean the utility model is evil. Therefore, it is important to learn from other factors outside the utility model regime.

A second-tier patent system encourages minor adaptations and inventions by local firms rather than revolutionary innovations,<sup>117</sup> so it could be important for China to provide registration of utility models to stimulate industrial production and scientific research.<sup>118</sup> Classical reward theory views the development of the patent system<sup>119</sup> in China as driving a powerful incentive in technological progress<sup>120</sup> because greater access to IP protection will provide greater incentives to innovate,<sup>121</sup> in order to get monopolies or cash

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113 Suthersanen, Dutfield, and Chow, "Utility Models and Other Alternatives to Patents," 22.

114 *Ibid.* Finland introduced its utility model regime in 1991. Denmark introduced its utility model regime in 1992.

115 *Ibid.*; John Richards and Ladas & Parry LLP, *Utility Model Protection Throughout the World*, 2010.

Italy introduced its utility model regime in 1934. Spain introduced its utility model regime in 1929.

116 Suthersanen, Dutfield, and Chow, "Utility Models and Other Alternatives to Patents," 19.

117 *Ibid.*, 8. The arguments about local market will be discussed in Part 4.3. *infra* Part 4.3.

118 Ruifang Chen, "The Utility Model System and Its Benefits for China—Some Deliberations Based on German and Japanese Legislation," *IIC*. 14 (1983): 506.

119 In Part 3.1.3 & Part 3.1.4, the paper discusses the reason why some countries have to consider use second-tier patent regime to robust their weak patent system. There could be reasons for their environment or political concerns, but it is demonstrated that utility model regime is a measure to be efficient to improve the patent system in a country.

120 *Ibid.*, 501.

121 Forrest, "Utility Model," 219.

rewards and improve reputation. Reward theory led the development of the PRC Patent Law.<sup>122</sup> Therefore, its amendment in 2009 narrows the scope of a patentee from “the inventor or designer” to “the name of the inventor” to reinforce the inventor’s incentive to create.<sup>123</sup>

Besides this classical reward theory’s endorsement, it should be no surprise that prospect theory views utility models as security for the future expenditure of development or for the necessary funds to innovate.<sup>124</sup> Conversely, Janis suspects the short-term protection accelerating the exposure of technology to public domain could be opposite to the incentive of inventors,<sup>125</sup> but this argument can only challenge classical utility models, which are merely protecting external appearances rather than the real value lying in the functionality of the technologies.<sup>126</sup> In China, the current utility requirements of the utility model are equal to that of a regular patent.<sup>127</sup> Furthermore, because the subject matter of the utility model in China excludes procedures or measures, the functionality of a utility model should not become a theoretical obstacle to encouraging innovation.

In addition, the prior patentee can coordinate downstream innovations with different firms to reduce duplication of efforts so as to enhance the efficiency of the innovation process.<sup>128</sup> The enhanced efficiency could be led by one industry but expanded to other downstream industries so as to finally stimulate the original innovations.<sup>129</sup> Alternatively, utility models with lower standards of inventiveness can become “prime candidates” for competitors who are free riders in the market, consequently making them highly pro-innovation.<sup>130</sup>

The market can eliminate anxieties over overprotection and anti-commons created by utility models.<sup>131</sup> Strengthening the impact of consumers on

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122 Runhua Wang and Jiangwei Chen, “Innovation Stimulating and Patent System under Globalization: An Analysis of New Institutionalism,” *Journal of Social Development* 3 (2015): 178.

123 Feng, “The Interaction between Enhancing the Capacity for Independent Innovation and Patent Protection: A Perspective on the Third Amendment to the Patent Law of the P.R. China,” 61.

124 Janis, “Second Tier Patent Protection,” 210.

125 *Ibid.*, 218.

126 *Ibid.*, 218.

127 *Supra* part 2.2.

128 *Ibid.*, 210.

129 The National People’s Congress heavily calls for stimulating original innovation in their annual meeting in 2013. Then, the Chinese government starts paying more and more attention on encouraging original innovation.

130 Suthersanen, *Utility Models and Innovation in Developing Countries*, 7. (“Many inventions which originate in SMEs have a lower standard of inventiveness, and are prime candidates for free riding by competitors. Consequently, utility models may be highly pro-innovation and consequently good for the national economy.”)

131 *Infra* Part 3.3.

the development of technology to cure the monopoly problems of over-properization is not a drawback of the utility model regime.<sup>132</sup> Hence, regulators should never ignore the benefits of consumers when designing any legal regimes. Utility model regimes are true precursors of many hybrid legal solutions made for new technologies.<sup>133</sup>

Another concern is that a utility model regime would decrease the efficiency of the whole patent system by protecting minor improvements.<sup>134</sup> Many people reasonably refer to utility models as minor patents since the laws under various utility model regimes require soft non-obviousness. For example, Australia directly named the regime “petty patent.”<sup>135</sup> A possible reason could be that it protects imitation-related innovations or technologies collectively in particular industries.<sup>136</sup> Inevitably, “imitation is an essential stage in learning to innovate and can even be creative in itself.”<sup>137</sup> Also, flourishing imitation-related innovations may not be a tragedy for society. The Nordhaus model shows that the reduction of production cost happens with the opposite trend of the outcomes of invention of products.<sup>138</sup> Regarding more benefited competitors legally imitating, an increasing of the outcome should be expected in the utility model regime where various products make the market diversified and provide more alternatives to favor consumers and stimulate competition among inventors so as to benefit both the innovating firms and consumers.<sup>139</sup>

Developing countries should acquire technologies,<sup>140</sup> but the most essential point for them is the commercialization of technologies. However, the lack of that consideration is a common problem for many countries, especially for China.<sup>141</sup>

Although state-run academies of science in China register many regular

132 Maskus, “Lessons from Studying the International Economics of Intellectual Property Rights,” 203.

133 Reichman, “Intellectual Property,” 2459.

134 Lemley, “The Economics of Improvement in Intellectual Property Law,” 1008.

135 Commission of EU, *supra* note 85, The Part Two of talking about economic needs of UMs concludes that “Utility model protection therefore seems suited to small technological advances with a relatively short lifetime which are likely to develop in the future.”

136 Reichman, “Intellectual Property,” 1124.

137 Suthersanen, *Utility Models*, 9; Pager, “Patents on a Shoestring,” 803.

138 Erich Kaufer, *The Economics of the Patent System*, 1988, 25.

139 *Ibid*. The model shows an increasing of the outcome when the inventor licenses the patent to a competitor. However, this is only a potential expectation. *Infra* Part 3.3.

140 The three categories are 1) to absorb established technologies by tapping the global public domain, 2) to generate its own technological innovations, or 3) encourage the transfer of proprietary technologies by foreign firms. Pager, “Patents on a Shoestring,” *supra* note 56, 761.

141 Maskus, “Lessons from Studying the International Economics of Intellectual Property Rights,” 203.

patents every year, fewer of these patents are commercialized as products on the market or licensed to others,<sup>142</sup> probably because sovereignty and promotion schemes were the reasons pushing scholars to invent. In order to be promoted to become a professor or a researcher with the same level of title, the Chinese scholars need to file patent applications to present their invention endeavors and academic abilities. Gradually, the absence of commercial incentives would make these university inventors tend to focus less on inventions with marketable applications.<sup>143</sup> However, compared to state funding, the amount of R&D funding in private entities, especially in SMEs, is limited.<sup>144</sup> Thus, the utility model becomes a significantly easier and cheaper approach for private entities, and it would not be too late to realize the importance of commercialization of innovations from any resources.<sup>145</sup>

In China, the lack of commercialization of technologies is reasonable because of its less free market. Its percentage of local individual inventors among all local utility model holders (17.9%, accumulated until March 2014) is much higher than the figure of foreign applicants (2.6%).<sup>146</sup> The individually developed utility models face market access barriers or have little effect on increasing market competition. Thus, it is necessary to understand the interaction between utility models and the market.

### *Interaction between Utility Models and the Market for Local and Foreign Companies*

Due to the simplification of the conditions necessary to obtain monopoly protections, a utility model would be a more frequent recourse for a variety of business concerns in Europe.<sup>147</sup> However, this regime's overprotective potential is not an absolute benefit.<sup>148</sup> The adjustment of a market to one with utility models could send signals of the systemic weakness of the

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142 Ibid.

143 Ibid., 202.

144 A lot of scholar scandals in China reveal that some professors secretly collect money from lending the resources, or the result of study of the labs funded by state to private entities with much lower cost than the they should pay on fair market or do by their own behalf. These private entities even include public enterprises. Hongzhen Xie and Yueke Zhang, "Secret Transaction of Technological Invention: "From Selling Patent to Steal State Fund," *Fenghuang Wang-Hubei*, 2014, [http://hb.ifeng.com/news/sddc/detail\\_2014\\_04/15/2127856\\_0.shtml](http://hb.ifeng.com/news/sddc/detail_2014_04/15/2127856_0.shtml) (accessed December 13, 2014)

145 This is not only a problem for utility models but also for regular patents in China because most of Chinese scholars and regulators ignore prospect theory or have not realized the existence of prospect theory; Janis, "Second Tier Patent Protection," 210.

146 State Intellectual Property Office of the P.R.C., "Statistic Information."

147 Commission of the European Communities, *Green Paper: The Protection of Utility Models in the Single Market*, 12.

148 Janis, "Second Tier Patent Protection," 217.

legal hybrid regimes; thus, a utility model regime can only be a cure for chronic market failure caused by inability of the regular patent or copyright regimes.<sup>149</sup>

Responding to Janis's concerns, there is no evidence for viewing utility models as conflicting with the free market. While they arguably provide artificial lead-time to compensate for the lack of natural lead-time under trade secret law, it does not unduly discourage competitors from benefiting from an innovator's contribution, and even usually permits an improver to capture the economic value of his improvement.<sup>150</sup> Conversely, larger market players from foreign countries may overuse utility models to circumvent their products which bars imitators or other competitors from sharing in the market.<sup>151</sup>

Zhai's concern is even more serious: the unfair advantages granted to local companies through the utility model regime could cause foreign companies to choose not to enter China's utility model patent market at all, so China would lose imported foreign technology that could "significantly advance China's own technological development."<sup>152</sup> Actually, the scenario is more complex than Zhai predicted since different sizes of businesses run in a utility model market and there are staggered benefits for arguable parties, a side with strong or weak technical innovations or a side with weak technical innovations. A utility model market includes both transactions and the products developed by them. The inventors license their IP rights to the imitators. Meanwhile, as a type of patent strategy, they usually file a bundle of patents and utility models to protect their inventions and innovations developed in the same period. After that, they will also keep doing research and development around the previously issued regular patents and utility models so as to file more IP rights around the previous one.

There should be more foreign goods and techniques to compete in an open market strengthened by a robust patent system.<sup>153</sup> For some developing counties with weak patent regimes, adding a utility model regime could be an efficient way to strengthen the patent system. China is revolutionary in encouraging original innovations rather than innovations solely invented around existing foreign technologies.

Suthersane worries that an applicant can be more competitive when

149 Ibid.

150 Reichman, "Intellectual Property," 2459.

151 Suthersanen, *Utility Models*, 8; Leith, *Harmonisation of Intellectual Property in Europe: A Case Study of Patent Procedure*: 120.

152 Zhai, "The Chinese Utility Model," 433.

153 Maskus, "Lessons from Studying the International Economics of Intellectual Property Rights," 203. *Supra* Part 3.1.3.

he prohibits his competitor's imitations immediately after filing an auxiliary application of utility model with a simultaneous regular patent application or converting a riskily failed regular patent application to a utility model application.<sup>154</sup> This could strike a balance for some firms, particularly for SMEs, by helping to safeguard or improve their market position when free riders crowd into the market.<sup>155</sup> While anti-commons and uncertainty problems make many scholars suspicious about its future in the U.S. market,<sup>156</sup> a developing country like China can use the regime to subsidize its local firms.<sup>157</sup>

The utility model regime is always considered to stimulate local innovative activities.<sup>158</sup> From 1975 to 1980, local applications in Germany were on average 73% of all applications of utility models.<sup>159</sup> At the same time, generally over 92% of utility model applicants in Japan were domestic.<sup>160</sup> This phenomenon is extreme in China where foreign applications have rarely constituted more than 1% of all utility model applications since the regime was formed in 1985.<sup>161</sup> This is different from the theories predicting that foreign companies will file more utility models applications in China because of the lack of substantive examination.<sup>162</sup> Eventually, the utility model system could provide security for assembling heavy technology importers, especially for some industrialized countries.<sup>163</sup>

The western scholars over criticized how this second-tier patent regime absorbs technology from foreign sources. In reality, it could be a reasonable political measures of the government in a developing country to maximize domestic company benefits or to provide them comparative advantage to balance political and economic pressure. The developing country has to protect foreign IP after opening their domestic markets to trade, which is always a "development dilemma" embodied in TRIPS for developing countries.<sup>164</sup>

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154 Chen, "The Utility Model System and Its Benefits for China—Some Deliberations Based on German and Japanese Legislation," 505.

155 Suthersanen, *Utility Models*, 7.

156 Janis, "Second Tier Patent Protection," 202.

157 *Ibid.*, 195.

158 Suthersanen, Dutfield, and Chow, "Utility Models and Other Alternatives to Patents," 29.

159 Chen, "The Utility Model System and Its Benefits for China—Some Deliberations Based on German and Japanese Legislation," 502.

160 *Ibid.*, 503.

161 Statistic from SIPO, accessed January 16, 2015, <http://www.sipo.gov.cn/tjxx/>.

162 Edward W. Tracy Jr. et al., "A Practical Patent Strategy for U.S. Companies Doing Business in China," *Landslide* 3 (n.d.): 17.

163 Suthersanen, *Utility Models*, 6.

164 Payer, "Patents on a Shoestring," 803-804; Reichman, "Intellectual Property," 1119. ("If they open their domestic markets to trade, they face political and economic pressure to protect foreign IP").

If regular patent systems are considered to “cater primarily to foreigners” in developing countries, a second-tier patent system is understandable in targeting local inventors.<sup>165</sup> In Germany, an average of over 46% of patent applications were filed by foreigners from 1975 to 1980.<sup>166</sup> In China, foreigners have filed over 32% of all accumulative regular patent applications as of 2012.<sup>167</sup> Comparatively, the rate of foreign applications of regular patents in Japan reduced from 15.5% to 13.2% from 1975 to 1980,<sup>168</sup> and its experience clearly suggests that the advantages of utility models should adjust the structure of the domestic development of technology.<sup>169</sup>

Unfortunately, the goal of having a utility model regime should never be to hinder the importance of foreign technologies in developing countries.<sup>170</sup> It creates conditions to possibly obtain advanced technologies from other countries as inexpensively as possible inside the range of TIRPS and other conventions.<sup>171</sup> Therefore, even though Zhai previously overstates the issue, the partial benefits of the regime for China could risk obstructing the whole patent regime to “attract enough new foreign technologies.”<sup>172</sup>

In sum, it is clear to see the benefits of a utility model regime for domestic inventors and firms, but not clear the impact on the incentive and behaviors of the foreign inventors and firms on the markets protecting utility models.

### *Effects of Utility Model Regime on the SMEs*

Empirical evidence from the EU Commission shows a low frequency of regular patents applications from SMEs in France and the U.K.<sup>173</sup> Comparatively, “utility model systems are particularly advantageous for SMEs,”<sup>174</sup> because they target inventions from SMEs rather than larger

165 *Ibid.*, 803.

166 Chen, “The Utility Model System and Its Benefits for China—Some Deliberations Based on German and Japanese Legislation,” 502.

167 State Intellectual Property Office of the P.R.C., “Statistic Information.”

168 Chen, “The Utility Model System and Its Benefits for China—Some Deliberations Based on German and Japanese Legislation,” 503.

169 Reichman, “Intellectual Property,” 1129. (“The Japanese experience suggests that advantages accrued from the use of utility models that surround foreign patents with tripwires of small-scale blocking effects tend to peter out once the country relying on this tactic shifts its own domestic emphasis to relatively basic research”).

170 *Ibid.*, 1119. (“If they protect foreign IP, they create conditions that force them to abandon their goal to obtain IP as inexpensively as possible”).

171 *Ibid.*

172 Zhai, “The Chinese Utility Model,” 433.

173 Michael Kern, “Towards a European Utility Model Law,” *JIC*. 25 (1970): 629. (“Nearly half of the patent attorneys in both states frequently did not apply for protection of inventions on behalf of their SME clients.”)

174 Suthersanen, *Utility Models*, 7.

inventions that are typically protected by a regular patent regime.<sup>175</sup> This aim is manifested in Germany where “utility models are mostly filed by SMEs and entrepreneurs.”<sup>176</sup> Also, a survey from the U.K., France, Spain, Italy and Germany by the EU Commission shows that 76% of the SMEs expressed a high interest in joining a utility model friendly community, in contrast to much smaller interest among larger companies.<sup>177</sup> Hence, this section introduces the effects of a utility model on SMEs.

It is necessary to design a proper second-tier protection regime to enhance the competitive ability of SMEs in the market. Besides the low rate of SME survival,<sup>178</sup> more innovations emanate from SMEs than from larger “multinational conglomerates.”<sup>179</sup> However, “cost is no doubt the major obstacle impeding SME access to patent systems worldwide,”<sup>180</sup> and the limitation of funding may even inhibit them from investing in R&D.<sup>181</sup> Comparatively, in developing countries, public research institutes usually have enough funding and conditions to do R&D, but do less commercialization with their useful inventions.<sup>182</sup>

As a result of the emergence of patent trolls around the inventions developed by public institutions in China, the state should move some weight of science development from these public institutions to SMEs. Universities and other public institutions do not practice their patents and lack the channels of technology transfers. Therefore, some non-practice entities buy the patents from these entities and ask other practitioners in the market to pay for licensing or stopping practicing for infringement. This will be a trend sooner or later in the future of China, as has been the experience of other developed countries. The clear expressions of utility models are even more easily found to be similar, as existing products in the market because of its soft requirement on the inventive step. The trend of invention commercialization could not only balance the development of technology in

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175 Kern, “Towards a European Utility Model Law,” 629.

176 Cummings, “From Germany to Australia: Opportunity for a Second Tier Patent System in the United States,” 305.

177 Suthersanen, *Utility Models*, 9.

178 Moya K. Mason, “What Causes Small Business to Fail?,” n.d. (“95% of new businesses fail within the first five years.”)

179 Suthersanen, *Utility Models*, 7.

180 Janis, “Second Tier Patent Protection,” 179.

181 Suthersanen, *Utility Models*, 7; *infra* Part 3.2.3; Suthersanen, Dutfield, and Chow, “Utility Models and Other Alternatives to Patents,” 31. German empirical evidence suggests that capital prohibits innovation of SMEs.

182 U.N. Secretariat, *Compendium of Documents and Reports Relating to the Work of the UNCTAD Ad Hoc Working Group on the Interrelationship between Investment and Technology Transfer*, 1995.

China, but also be a bridge to bringing more technologies into the market.<sup>183</sup>

In the early stages of new product commercialization, cost is a decisive factor of commercial success.<sup>184</sup> In the market, especially in an open international market with large amounts of new technologies, the acquisition of a patent protection for utility model products at a comparatively low cost possibly increases the role of the small-scale innovations by SMEs and makes a safe harbor for the livelihoods of their businesses.<sup>185</sup> Therefore, the nature of a utility model regime is supposed to reduce the cost of acquiring the protection at a level that fits the budgets of typical SMEs.<sup>186</sup> Other than reserving monetary costs, SMEs favor the regime primarily because it saves time and administration.<sup>187</sup>

In China, a utility model application and a regular patent application cost different amounts.<sup>188</sup> The publication of technology is a pre-condition required to move the application of a regular patent to the process of substantive examination.<sup>189</sup> Therefore, because pending time could be longer than the statute of limitations of infringement disputes, there could be a risk of short-term infringement use of the applied invention or efficient reverse engineering by others. Conversely, the utility model regime in China does not have these problems in practice, so SMEs would be reasonable to consider filing a utility model application even when they are simultaneously pursuing a protection under a regular patent.

After SMEs have enhanced access to the world of patents, they could intensify their innovative activity to increase their competitive ability in the market.<sup>190</sup> This is an opportunity not just to access technology, but also to finance, to recruit skilled labor, to build interactions with universities and

183 Maskus, "Lessons from Studying the International Economics of Intellectual Property Rights," 203. ("Finding mechanisms for public agencies and private enterprises to cooperate in such commercialization could bring a number of new technologies to the market, with benefits for consumers."); *supra* Part 3.2.3

184 Commission of the European Communities, *Green Paper: The Protection of Utility Models in the Single Market*, 13.

185 Suthersanen, *Utility Models*, 8, ("The utility models make it possible to increase the role of small-scale innovators and artisans in economic development and help them stay in business in the face of new technologies that might threaten their livelihoods").

186 Janis, "Second Tier Patent Protection," 178.

187 Commission of the European Communities, *Green Paper: The Protection of Utility Models in the Single Market*, 16.

188 Substantive examination particularly for regular patent applications takes at least 2,500 RMB. This is the main expense for applying a regular patent, and it takes at most three years. The Standing Comm. Nat'l People's Cong., *Law on Patent*, Article 35.

189 SIPO, *The Guide of Patent Examination*, Section 1, Chapter 1, Article 6.5.

190 Robert Hart, "The European Union's Proposed Protection for Utility Models - The Implications for Computer Programs," *Int'l Intell. Prop. L. & Pol'y* 3 (1998): 51-1.

public institutions, to share R&D resources, and to get more local and national government policy support.<sup>191</sup> It is significantly necessary to analyze if a utility model regime can be of efficient use to SMEs in their innovation activities, especially in China.

While this is a fair regime without substantive examination for every applicant, larger market players may overuse the whole patent system through utility models to circumvent their technologies, which makes it hard for SMEs to compete.<sup>192</sup> Larger companies can use injunction relief with their small or big inventions to aggregate their monopoly status in the market.<sup>193</sup> This risk unfortunately increases the cost of doing business for all others in that industry, especially for the SMEs presumably “least well-positioned to handle such costs.”<sup>194</sup> Therefore, since the utility model regime does not preclude larger companies, it is necessary to consider the risk of making a situation in opposition to the initial government incentive of a regime partially favoring SMEs.<sup>195</sup>

In China, dual-application of a regular patent and a utility model patent is a double-edged sword.<sup>196</sup> On one hand, the risk of circumvention of an industry by larger companies should be taken seriously because they can get efficient monopoly protection for their technologies at any stage, especially during pending substantive examination for their regular patent applications. On the other hand, it should spur technology importation. Roughly more than half of the patent applications are filed in conjunction with a split-off utility model in Germany.<sup>197</sup> This technique of dual application could be advisable for technology-exporters from developed countries when their technologies enter a market providing utility model protection.

Thus, utility models can be a secure option for SMEs when they are trying to pursue a regular patent requiring higher invention requirements for substantive examination, which could encourage SMEs to challenge themselves to invent advanced technologies and try to apply for regular patents with stronger protections. Also, another alternative could be that utility models build a bridge of cooperation between larger companies and SMEs. They can obtain financial support to improve their research with utility models as collateral for lenders or as signals to attract investors, and the

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191 Forrest, “Utility Model,” 219.

192 Suthersanen, *Utility Models*, 8.

193 Janis, “Second Tier Patent Protection,” 181.

194 *Ibid.*, 186.

195 *Ibid.*

196 St. Council, *The Rules for the Implementation of the Patent Law*, Article 41..

197 Cummings, “From Germany to Australia: Opportunity for a Second Tier Patent System in the United States,” 304.

monopoly right granted by their utility models can also help the SMEs limit the risk of business failure in the market with their products.<sup>198</sup> This is significant for SMEs in early commercial stages when they have less information and must gauge the demand of their technologies in the market.<sup>199</sup>

In addition, easily acquired utility models can send signals to local governments that SMEs are innovative firms, which would spur further subsidies and beneficial policies. In China, every provincial government provides awards to the registration of patents, including utility models. Subsidies can underwrite the R&D expenses of SMEs, especially in early commercial stages. Besides signaling licensees and governments, utility models are also able to send signals to potential investors by showing their R&D interest and potential R&D ability. In this process, if an SME files a dual-application, the registration of a utility model will secure potential investors so as to strengthen the value of the firm and its technology. Also, recall Janis's opinion that the weakness of SME bargaining results in less development of technology than in larger companies.<sup>200</sup> His argument against setting a utility model regime in the U.S. would not be a proper argument against having a utility model regime in China.

Furthermore, the wasteful uncertainty cost for foreign investors could possibly be a proper and usual policy of subsidy to partially protect local SMEs, and the importance of new technologies and highly innovative businesses go far beyond their direct contribution to employment.<sup>201</sup> In China, local applicants have accounted for roughly over 99.3% of the utility model patent applications since 2006, and generally over 99% of all utility model filings.<sup>202</sup> Not only is the government empowered under various Conventions through the utility model regime to favor local SMEs for its own interest,<sup>203</sup> the regime itself is more popular than the regular patent regime. Among the three types of patent protection in China, the amount of regular patent filings is always less than one third of the patent filings total.<sup>204</sup>

In order to encourage SMEs from less inventive industries of processing

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198 Janis, "Second Tier Patent Protection," 189. ("Second-tier patents may provide small companies with the security necessary to obtain intermediate financing necessary to move a research program ahead to the next benchmark.")

199 Commission of EU, *supra* note 85, at 13.

200 *Ibid.*, 206. ("Small enterprises and independent inventor may well lack the resources and/or sophistication to participate in the complex bargaining that would be necessary to re-aggregate patent rights in an economically sensible fashion.")

201 Forrest, "Utility Model," 218; *Creating An Entrepreneurial Europe: The Activities of the European Union for Small and Medium-Sized Enterprises (SMEs)*, at 76 COM(2003), 26 final (Jan. 21, 2001).

202 State Intellectual Property Office of the P.R.C., "Statistic Information."

203 *Supra* Part 3.1.2. Pager, "Patents on a Shoestring," 806.

204 State Intellectual Property Office of the P.R.C., "Statistic Information."

and manufacturing to original innovation, the above risks should be better examined through an empirical study,<sup>205</sup> but there is a long way to go to move Chinese SMEs to reliance on the regular patent regime so as to reduce the uncertainty and high due diligence costs of foreign investors.

### Does Substantive Examination Matter?

The fundamental difference between a utility model registration and a regular patent registration is substantive examination, the core of which in China is the requirement of non-obviousness.<sup>206</sup> From 2006 to 2010, there was an average of around 21.5% of utility model applicants in China that were rejected in the preliminary examination for lacking utility, but more than 97% of these failed applications were individual applicants rather than “work for hire.”<sup>207</sup> In order to encourage the competitive and innovative abilities of local companies, especially SMEs, this data evidence shows that the utility standard does not significantly influence the issuance of utility models to companies.

Some European utility model regimes have no requirements of non-obviousness. These regimes run as classical utility regimes and usually are called three-dimensional regimes, such as the regimes in Italy, Denmark, Finland, Greece, Portugal and Spain.<sup>208</sup> These regimes only examine for formality.<sup>209</sup> Their novelty standards only prohibit the inclusion of local prior arts, so many scholars suggest abolishing this kind of regime protecting three-dimensional forms.<sup>210</sup> In contrast, a second-tier patent system could complement the regular patent regimes and solve the issues made by a three-dimensional regime.<sup>211</sup>

Utility models, however, could still qualify less novelty than regular patents

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205. Leith, *Harmonisation of Intellectual Property in Europe: A Case Study of Patent Procedure*, 120.

206 “The Guide” includes searching both local and international prior arts in the process of preliminary examination for utility models, but excludes the process of testing non-obviousness which is only required when a regular patent application is pending. “The Guide” shows the three types of preliminary examination for the three types of patent filing in the Part I and mentions less about the search for novelty in this part. However, even though it expresses the detail of examination of novelty of utility models in Part II, “The Substantive Examination,” the Patent Law of China only requires this procedure adopting on the application of invention patent in Article 35. Therefore, because the test of utility is a forward step of testing novelty, which is defined in Part 2.3, Article 3 of “the Guide”, we learn that the nature of the substantive examination is to test non-obviousness of an invention.

207 Hui Lian, “An Empirical Study of Rejected Applications of Utility Models,” *Intellectual Property* 8 (2011): 78-79.

208 Suthersanen, *Utility Models*, 12.

209 *Ibid.*, 13.

210 Hart, “European Union’s,” 50-52.

211 Janis, “Second Tier Patent Protection,” 191.

because of the pending time spent on substantive examination. Concerning pending time, observing the variance of utility model filing and issuance could be better than only observing the issuance rate.

### *How Technology Developers Protected with Utility Models*

When utility model holders want to protect their rights from infringement, some European courts require evidence of particular novelty and inventive step, the substantive conditions required for regular patents.<sup>212</sup> The re-examination requirement of a patent examination report in utility model litigation in China is similar as these substantive conditions. This judicial procedure could be helpful to feed the gap of the different responsibilities between a regular patent regime and a utility model regime.<sup>213</sup>

“The Guide” regulates the contents of a patent examination report, and the process of making the report is controlled by SIPO. However, concretely, it only interprets the vague language of the Patent Law. Therefore, it is difficult to clearly understand the strength and the efficiency of the protection of utility models through the redundant standards in the evaluation of patent examination reports. Similarly, that the preliminary examination adopts lower level standards of novelty and inventive step than regular patents is also not very clear.<sup>214</sup> However, these would not cause gap costs because the two standards of novelty and non-obviousness in the process of preliminary examination and the process of making a patent examination report are equally the same. It should be reasonable to define the utility model regime in China as the regime used by Germany and Austria, rather than the “Patent Regime,” in France, or the “Three Dimensional Regime” in Italy.<sup>215</sup>

In Germany, the portion of invalid utility models issued is very small,<sup>216</sup> so it could be reasonably inferred that technologies are often safely protected and get less successfully challenged under a similar utility model regime, like that in China. In China, the requirement of a patent examination report controls the non-obviousness so as to treat third parties fairly when they are challenging the validity of the utility models. Until 2012, there were 5832 invalidity cases filed for utility models, and 72% of these claims lost their rights of protection for lacking creativity.<sup>217</sup> Superficially, the mechanism

212 Krasser, “Development,” 951.

213 Janis, “Second Tier Patent Protection,” 182.

214 SIPO, *The Guide of Patent Examination*, Part 5, chapter 10, article 3.2.1(2), (4) and (6).

215 Suthersanen, *Utility Models*, 12.

216 Chen, “The Utility Model System and Its Benefits for China—Some Deliberations Based on German and Japanese Legislation,” 506.

217 Yong Chen, “Statements about the Examination of Creativity of Utility Models,” *Intellectual Property* 8 (2013).

increases the uncertainty of the standards of soft obviousness, so it increases the cost of enforcing the protection of utility models.

While 50.8% of utility model validity disputes were decided as completely invalid, 14.7% were found to be partly invalidity, and only 34.5% of the disputed utility models are valid until 2012.<sup>218</sup> Furthermore, the amount of disputed utility models was only 0.58% of the total number of issued utility models.<sup>219</sup> Applicants consider the utility models as property rights that can more quickly grant monopoly protection than a regular patent, which requires a lengthy pending time to get processed by the high standards substantive examination. However, they should have the knowledge that when they enforce their rights of utility models against infringers of the protected technologies, getting a patent examination report consumes time. Thus, SMEs should generally favor utility models because it saves application costs, has a soft obviousness standard and supposedly provides quick protection.

## Conclusion

Utility models are a type of exclusive rights provided to inventors or innovators in a comparatively short amount of time as a complement to regular patents. Utility models are cheap, quick, and easy to gain because they lack a process of examining non-obviousness.

For a country, constructing a utility model regime is costly, but it can help local companies, especially SMEs, to quickly get access to the patent world, so as to potentially be on the path toward controlling the local market and fostering original innovation. With this condition, they can send signals to potential investors and local governments to announce their potential ability to produce innovation so as to acquire capital to compensate their early investment in R&D.

In China, this system partially favors local businesses and SMEs with the soft obviousness standard. However, for the future of “worldwide harmonization of substantive patent law,”<sup>220</sup> it is an effective tool to attach to the regular patent regime, so as to make the whole patent regime robust and the market ready for technology corporations and commercialization. **Y**

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<sup>218</sup> *Ibid.*, 78-79.

<sup>219</sup> State Intellectual Property Office of the P.R.C., “Statistic Information.”

<sup>220</sup> F.-K Beier, “The Future of Intellectual Property in Europe—Thoughts on the Development of Patent, Utility Model and Industrial Design Law,” *ICC 22* (1991): 167, 172.