

THE WOLF HAS COME: ARE CHINA'S INTELLECTUAL PROPERTY INDUSTRIES PREPARED FOR THE WTO?

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I. INTRODUCTION

After fifteen years of negotiations, China was finally admitted into the WTO.¹ “The wolf has come,” refers to the impending challenges brought by the entry into the WTO. Some Chinese worried, “Will we be able to ‘dance with the wolf’ or be eaten alive by it instead?”² The sentiment was particularly strong among China’s intellectual property (“IP”) industries because these industries are still relatively young and vulnerable to face fierce international competition, where, after the entry into WTO, intellectual property has become a major element of the competition and in which IP protection level has been elevated

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1. China signed the Protocol of WTO Accession on November 11, 2001 in Doha, and became a full member of the WTO on December 11, 2001. China (or former Republic of China) was a signatory to the original GATT (General Agreement on Tariffs and Trade) treaties, but withdrew its membership after the Chinese Communist Party took the power from the Nationalist government in 1949. In 1986 China submitted an application to resume its membership, but was admitted only 15 years later.

2. The fear of the wolf comes from Chinese folklore, probably based on one of Aesop’s Fables, in which a young boy was eaten alive by a wolf when he called out “the wolf had come,” but no villagers showed up because they stopped believing him after he played several tricks on them with false alarms. An article by Bao Jinhui pointed out that, after entering into the WTO, Chinese enterprises should have a global strategy so that they can “dance with the wolf” and not to be eaten by the wolf, and eventually “share with the wolf in global profits.” See Pao Jinhui, *Playing ‘Legal Cards’ after the Entry of the WTO*, CHINA BUS. & FIN. TIMES, June 25, 2001.

under the Agreement for Trade-related Aspects of Intellectual Property Rights ("TRIPS").³

Many studies concerning China's IP protection have concentrated on legislative reform and judicial enforcement of intellectual property rights ("IPRs"). While briefly addressing these important issues, the focus of this article is on Chinese IP industries' responses to the WTO challenges. Specifically, this article examines what have been perceived by the Chinese IP industries to be their greatest challenges after entering into the WTO, the major problems that have been plaguing the industries, and strategies the industries have been formulating to cope with the challenges.

The article begins with an inquiry into what impact the IPRs protection might exert on the development of the indigenous IP industries in a developing country. The diverse views on this issue will help us assess the reality China's IP industries are facing within the context of WTO and what IPRs policies will be appropriate for the growth of these industries. After laying this theoretical foundation, the article gives a brief account of the amendments China has made to its IP legislation in preparation for gaining entry into the WTO.

As mentioned, the emphasis of this article will focus on China's IP industries' responses to the challenges of the WTO. The article will first examine the major industries involving copyright, trademark, and patent protection to evaluate the problems currently confronting these industries (e.g. brain drain and rampant piracy). It will then discuss the challenges brought by the WTO entry, such as closer scrutiny of infringement and fiercer foreign competition. The article will also explore the strategies of the industries (with the assistance of government and research institutions) to cope with the challenges. Finally, the article will assess how mutually affected the WTO and China will be in the future in terms of IPRs protection, and what role China will play in the WTO in shaping and reforming TRIPS and relevant IP policies.

II. THE IMPACT OF IPRS ON THE DEVELOPMENT OF INDIGENOUS IP INDUSTRIES

A. WEAK V. STRONG PROTECTION

The protection of IPRs is one of many elements essential to the development of an indigenous scientific and technological capacity. How to evaluate its real impact, however, is a rather difficult task. The existing studies are often inconclusive or even

3. See Pao Jinhui, *supra* note 2.

contradictory. Some argue that strong IPRs protection in developing countries may generate domestic benefits such as more domestic innovation, technology transfer, and foreign direct investment (“FDI”).⁴ For example, according to Maskus, if Chinese patent protections become 25% more effective, American FDI in China would increase by approximately 11% in the long run.⁵ Mansfield concluded that “the strength or weakness of a country’s system of intellectual property protection seems to have a substantial effect, particularly in high-technology industries, on the kinds of technology transferred by many U.S. firms to that country.”⁶ On the other hand, weak protection of IPRs may discourage FDI and technology transfer. For example, an American CEO cautioned small US companies depending heavily on a single, easily duplicated product not to rush into the Chinese market until China’s IPRs climate has improved.⁷

Other studies show that there is no strong positive correlation between IPRs protection and foreign trade or FDI. China and India, for example, two countries with weak IPRs protection, have been enjoying large FDI inflows for many years.⁸ Some suggested that IPRs may be totally irrelevant to FDI. According to a survey conducted among foreign businessmen in China, it is the size and potential of the Chinese market that principally attracts FDI.⁹ Bill Gates’s famous remarks on Microsoft’s willingness to bear millions of dollars of losses to Chinese piracy revealed that he is confident that his company will eventually re-

4. KEITH E. MASKUS, *INTELLECTUAL PROPERTY RIGHTS IN THE GLOBAL ECONOMY* 34 (2000).

5. *Id.* at 152.

6. Edwin Mansfield, *Intellectual Property Protection, Foreign Direct Investment, & Technology Transfer*, (The World Bank) 1994, at 20.

7. Jonathan C. Spierer, *Intellectual Property in China: Prospectus for New Market Entrants*, HARV. ASIA Q., Summer 1999, available at <http://www.fas.harvard.edu/~asiactr/haq/199903/9903a010.htm>. “Rampant piracy of intellectual property in China has undermined foreign confidence in the Chinese market’s ability to absorb foreign technology and copyrighted material without cannibalizing it.” *Id.*

8. For example, in year 2002, the total FDI in China is expected to exceed US\$500 billion and China will become number one in attracting FDI. See *Shi Guangsheng Review the First Year of WTO: China Has Realized Two ‘Bests’*, CHINESENEWSNET.COM, Dec. 2, 2002, available at <http://www.chinesenewsnet.com>. See also the discussion in Horacio Teran, *Intellectual Property Protection and Offshore Software Development: An Analysis of the U.S. Software Industry*, 2 MINN. INTELL. PROP. REV. 1 (2001), available at <http://mipr.umn.edu/archive/v2n1/teran.pdf>. “Countries that have a poor record of enforcement of software intellectual property rights, such as China and India, receive overseas investments.” *Id.*

9. Paul Tackaberry, *Intellectual Property Risks in China: Their Effect on Foreign Investment and Technology Transfer*, J. ASIAN BUS., Fall 1998, at 34, 45.

ceive huge returns despite China's weak IP protection for computer software.¹⁰

In fact, the Commission on IPRs of the British government ("Commission") found that strong IPRs protection may have a negative impact on developing countries because "the costs may be very substantial in terms of lost output and employment, or even retarded growth."¹¹ The Commission concluded the following: "for those developing countries that have acquired significant technological and innovative capabilities, there has generally been an association with 'weak' rather than 'strong' forms of IP protection in the formative period of their economic development."¹²

China was categorized as such a developing country that has benefited from a "weak" IPRs regime in its economic development.¹³ Weak IPRs protection allows infant domestic industries ample time to grow by imitating and copying foreign products without providing compensation, while strong IPRs protection will limit this option.¹⁴

On the other hand, the Commission concluded that a strong IPRs regime may be necessary for a country that has developed into the category of "upper middle income developing countries"¹⁵ and "to facilitate access to protected high technologies."¹⁶ The Commission's approach of taking the economic and technological conditions and the differences of industrial sectors into consideration is particularly useful in assessing the impact of IPRs in China because, at present stage, China is still a "lower middle income economy."¹⁷ In China the technological capacities of various industrial sectors are uneven. Under such circumstances, we may conclude that while weaker IPRs protection

10. Andy Y. Sun, *Beijing Court Dismissed Microsoft for Lack of Evidence: Major Software End User Infringement Case in China May Return Later*, APLI UPDATE, Feb. 2000, at 7. Bill Gates said, "[A]lthough about three million computers get sold every year in China, people don't pay for the software. Someday they will though. And as long as they're going to steal it, we want them to steal ours. They'll get sort of addicted, and then we'll somehow figure out how to collect sometime in the next decade." *Id.*

11. *Integrating Intellectual Property Rights and Development Policy*, REP. COMM'N INTELL. PROP. RIGHTS, Sept. 2002, at 34 [hereinafter REPORT], available at http://www.iprcommission.org/papers/text/final_report/reportwebfinal.htm.

12. *Id.* at 33.

13. "China and India, along with several other smaller developing countries, have world class capacity in a number of scientific and technological areas including, for instance, space, nuclear energy, computing, biotechnology, pharmaceuticals, software development and aviation." *Id.* at 13.

14. MASKUS, *supra* note 4, at 35.

15. REPORT, *supra* note 11, at 33.

16. *Id.* at 35.

17. See *Data & Statistics*, The World Bank Group, at http://www.worldbank.org/data/countryclass/classgroups.htm#Lower_middle_income (last visited Feb. 6, 2003).

would be more beneficial to China on the whole, different IP industries may need different levels of IPRs protection to suit their own pace of development. As the Commission pointed out, "achieving the right balance may be difficult for some countries such as India or China where some industries have the potential to benefit from IP protection, but the associated costs for industries that were established under weak IP regimes as well as consumers are potentially high."¹⁸ However, it is important to strike such a balance, no matter how difficult it is, because only under a balanced IPRs policy can China's IP industries, while saving costs by taking advantages of a weak IPRs regime, become more competitive with a strong IPRs regime in a long run.¹⁹

B. CHALLENGES V. OPPORTUNITIES

TRIPS offers Chinese IP industries not only tremendous challenges, but also unprecedented opportunities. The Chinese term for "crisis" is "*wei ji*." As this term indicates, "*wei*," a danger, always goes hand in hand with "*ji*," an opportunity. Challenges arise from the following sources: (1) the difficulties of fulfilling the TRIPS requirements, (2) the unbalanced bargaining powers within the WTO in formulating IP policies and implementing TRIPS, and (3) fierce competition from foreign counterparts.

Although China had amended its IP legislation according to TRIPS standards, the amendments have not exhausted the non-complying aspects.²⁰ In addition, implementation of the IP legislation has been problematic. According to the written comments of the American Bar Association on the post-WTO development of rule of law in China, although many improvements have been made to the "paper" legal framework in China's IP area, "poor enforcement, combined with weak punishments, mean that intellectual property violations are still rampant."²¹ Therefore, whether Chinese IP industries can transform "*wei*" to "*ji*" partly depends on whether China can fulfill its commitments to the WTO regarding both legislation and enforcement of IPRs.

18. REPORT, *supra* note 11, at 35.

19. As Spierer pointed out, referring to the software industry, "Leaders enforcing both national and regional Chinese laws would be well-served by asking themselves what is more important for China's future: a pirating industry capable of stealing and undercutting other firms' innovations or a legitimate software industry capable of competing on an international level?" Spierer, *supra* note 7, at 8.

20. See *infra* § 2.3.

21. American Bar Association's China Law Committee, *Written Comments on Rule of Law Issues Related to the People's Republic of China's Accession to the World Trade Organization*, at 16 (on file with the author).

On the other hand, how China can survive under TRIPS will also be affected by external factors such as whether it will be treated equally and fairly within the WTO. More specifically, it depends on whether the decision-making process of the WTO can become more democratic and balanced in future negotiation rounds, whether developing countries can protect their interests to achieve genuine cooperation between the developed and developing countries, and whether the dispute resolution mechanism can be carried out effectively and fairly. Correa pointed out that TRIPS was a product of the pressure industrialized countries placed upon developing countries to negotiate an agreement with "the clear objective of universalizing the standards of IPRs protection that [the] former had incorporated in their legislation."²² Even worse, Jagdish Bhagwati pointed out that "TRIPS does not involve mutual gain; rather, it positions the WTO primarily as a collector of intellectual property-related rents on behalf of multinational corporations (MNCs)."²³ In fact, the latest estimate of the World Bank shows that the major beneficiaries of the enhanced IPRs under the TRIPS would be the developed countries and the "net-loser" would be the developing countries.²⁴ Under this situation, the bargaining powers among the WTO member states can be unbalanced, the conflict between North and South will escalate, and the interests of developing countries such as China may be undermined. The challenge for China is how to cope with this situation, especially during the first few years after its accession to the WTO in order to strengthen its bargaining power and protect its legitimate interests.

However, it is worth noting that developing countries can take advantage of certain elements of TRIPS. For example, the "public policy objectives of national system" consideration,²⁵ the principles of protecting "public health and nutrition," and "the

22. CARLOS CORREA, *INTELLECTUAL PROPERTY RIGHTS, THE WTO AND DEVELOPING COUNTRIES: THE TRIPS AGREEMENT AND POLICY OPTIONS* 7-8 (1999).

23. Jagdish Bhagwati, *What It Will Take to Get Developing Countries into a New Round of Multilateral Trade Negotiations*, in *TRADE POLICY RESEARCH* 19, 21 (2001), at http://www.dfait-maeci.gc.ca/eet/research/TPR_2001-en.asp (last visited Feb. 5, 2003).

24. REPORT, *supra* note 11, at 32.

25. TRIPS Article 7 provides, "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations." Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization [hereinafter WTO Agreement]; Annex 1C, *LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND* vol. 13, 33 I.L.M. 81 (1994) [hereinafter TRIPS Agreement], available at <http://www.wto.org>.

public interest”²⁶ clauses allow developing countries to take their particular social and economic circumstances into account when formulating their IP policies.²⁷ In addition, TRIPS purposefully left terms such as “invention,” “microorganisms,” “nonbiological,” and “essentially biological” undefined in order to allow developing countries some flexibility in formulating their laws “to avoid the patenting of products identified in nature.”²⁸ Finally, TRIPS offers transitional arrangements for the developing and least developed countries to allow these countries ample time to reform their IP systems according to TRIPS standards.²⁹

Thus, under TRIPS, there are opportunities for developing countries “to design legislation that is compatible with their own level of development and with their economic and technological policies.”³⁰ In the next section, I will examine how, prior to its WTO accession, China designed its IP legislation to satisfy TRIPS requirements on the one hand, while considering its own social, economic and technological conditions on the other.

The third source of challenges concerns foreign competition, which will be discussed in section 5.1 of this article in greater detail. It is sufficient here to note that foreign competition will become fiercer as China opens its market for IP products to foreign countries. The foreign products may drive Chinese IP intensive products, along with their brand names and marks, out of the market, and threaten the survival of Chinese IP intensive industries.

III. CHINA’S LEGISLATIVE RESPONSES TO TRIPS

Under TRIPS, all WTO members must conform their laws, regulations, and administrative procedures to the standards of

26. TRIPS Article 8(1) provides, “members may, in formulating or amending their laws and regulations, adopt measure necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of the Agreement.” *Id.* art. 8(1).

27. Correa suggested that under these objectives and principles, developing countries may adopt the following measures for the benefit of national and public interests: parallel imports; non-patentability of substances in nature and of animals and plants; exceptions to exclusive rights; compulsory license in patent field; and reverse engineering of computer programs and other copyrightable works. CORREA, *supra* note 22, at 7-8.

28. John H. Barton, William Lesser, & Jayashree Watal, *Intellectual Property Rights in the Developing World: Implications for Agriculture*, JHB THIRD EFFORT AT CONSENSUS DRAFT (unpublished manuscript at 3, on file with author), Nov. 8, 2001.

29. For example, the compliance period for TRIPS rules had been extended from 2006 to 2016 for the world’s least developed countries.

30. CORREA, *supra* note 22, at 8.

TRIPS,³¹ but “shall be free to determine the appropriate method of implementing the provisions of [TRIPS] within their own legal system and practice.”³² Prior to and immediately after China’s admission to the WTO, Chinese legislators made conscientious efforts to amend IP related laws and regulations.³³ The revised laws and regulations were supposed to have reached the levels of protection required by TRIPS.³⁴

A. SUBSTANTIVE CHANGES

This section highlights the major amendments to Chinese Copyright Law, Trademark Law, and Patent Law, as well as their implementing rules, in substantive and procedural aspects. Generally speaking, the amendments to the three major IP laws have broadened the scope of protection and further defined the protectable rights that were unclear in the previous legislation.

The amendments to the Copyright Law extended the scope of protection to acrobatic art, works of architecture, and the selection or arrangement of databases.³⁵ The amendment also divided three general rights³⁶ into thirteen specific rights³⁷ in which the rights of authors, performers in the sound-recording industry, and television and broadcast stations are clearer and more specific. Furthermore, the revised implementing rules extended protection for performances, sound-recordings, and radio and

31. TRIPS, art. 1(1). *See also*, Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, GATT SECRETARIAT, RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS: THE LEGAL TEXTS (1994), at 6; 33 I.L.M. 1125, art XVI(4). “Each Member shall ensure the conformity of its laws, regulations and administrative procedures with its obligations as provided in the annexed Agreements”. TRIPS is one of the “annexed Agreements.” *Id.*

32. TRIPS, *supra* note 24, art. 1(1).

33. The dates of amending the PRC IP laws are: Copyright Law: October 27, 2001, and its implementing rules: August 2, 2002; Trademark Law: October 27, 2001, and its implementing rules: August 3, 2002; Patent Law: August 25, 2000, and its implementing rules: June 15, 2001.

34. *See* Huang Wenxiang, *China's Accession to the WTO and Its Intellectual Property Rights Protection*, in CHINA AND THE WORLD TRADE ORGANIZATION: REQUIREMENTS, REALITIES, AND RESOLUTION 204, 210 (Wenguo Cai et al. eds., 1996).

35. TRIPS provides “compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such.” TRIPS, *supra* note 24, art. 10(2). The prior PRC Copyright Law art. 14 only protects “the copyright in a work created by compilation” but not the work “which by reason of the selection or arrangement of their contents constitute intellectual creations.”

36. These three general rights are the author’s rights in property, use and remuneration.

37. These thirteen specific rights are rights in copying, issuing, renting, exhibiting, performing, filming, broadcasting, rebroadcast through internet, photographing, editing, translating, arranging, and other rights belonging to the copyright owner.

television programs produced or distributed by foreigners.³⁸ The “not for profit” requirement was abolished.³⁹ The scope of “fair use” was also narrowed to comply with TRIPS.⁴⁰ Lastly, the Computer Software Copyright Regulations were revised to extend the protection term for software programs from 25 years to 50 years and to grant the author exclusive rights to lease computer software.⁴¹

Revisions to the Trademark Law extended the scope of trademark protection to three-dimensional and color marks.⁴² Collective marks and certification marks were further defined.⁴³ Protection for geographic indications was added.⁴⁴ Famous

38. See Regulations for Implementation of Copyright Law of the PRC, arts. 33, 34, 35.

39. The 1991 provision in Copyright Law that “a radio station or television station that broadcasts, for non-commercial purposes, a published sound recording needs not obtain permission from, or pay remuneration to, the copyright owner, performer or producer of the sound recording” is inconsistent with the performers’ rights and broadcasting rights under Berne Convention and Rome Convention (made applicable by virtue of TRIPS, art. 14). The Amended Copyright Law Article 37 deleted the term “for non-commercial purpose.”

40. TRIPS provides, “Member shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder.” TRIPS, *supra* note 24, art. 13.

41. The revision was made by China’s State Council on October 1, 2001.

42. According to TRIPS, “any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings, shall be capable of constituting a trademark. Such signs, in particular words including personal names, letters, numerals, figurative elements and combinations of colours as well as any combination of such signs, shall be eligible for registration as trademarks.” TRIPS, *supra* note 24, art. 15(1).

The old PRC Trademark Law Art. 7 provides that “any word, device or their combination that is used as a trademark shall be so distinctive as to be distinguishable.” The Amended Trademark Law Art. 8 provides that “any visual sign, including words, devices, letters, numerals, three-dimensional designs, combination of colors, or any combination of these elements can be applied for as a trademark as long as they serve the purpose of distinguishing goods or services offered by different citizens, legal persons or organizations.”

43. Amended Trademark Law art. 3.

44. Before amendment, a geographical indication could be protected as a certification trademark in China. See Xie Lejun, *Protection of Appellations of Origin in China*, 1 CHINA PATENTS & TRADEMARKS 74, 74 (2001).

According to TRIPS, art. 22(2), (3) and (4), WTO members “shall provide the legal means for interested parties to prevent: (a) the use of any means in the designation or presentation of a good that indicates or suggests that the good in question originates in a geographical area other than the true place of origin in a manner which misleads the public as to the geographical origin of the good; (b) any use which constitutes an act of unfair competition within the meaning of Article 10 of the Paris Convention (1967).” A WTO member shall also, “ex officio if its legislation so permits or at the request of an interested party, refuse or invalidate the registration of a trademark which contains or consists of a geographical indication with respect to goods not originating in the territory indicated, if use of the indication in the trademark for such goods in that Member is of such a nature as to mislead the public as to the true place of origin.” Furthermore, the above protections

marks were specifically protected.⁴⁵

Finally, Patent Law amendments added exclusive rights to a patent-holder against “offerings for sale,”⁴⁶ imposed the burden of proving the processing of a patent upon the defendants,⁴⁷ and required more stringent conditions for issuing compulsory licensing.⁴⁸

“shall be applicable against a geographical indication which, although literally true as to the territory, region or locality in which the goods originate, falsely represents to the public that the goods originate in another territory.” TRIPS, *supra* note 24, arts. 22(2)-(4).

45. Applications of marks for registration or use will not be approved if the mark is to plagiarize, counterfeit or translate any unregistered well-known trademarks of another party in respect of same or similar goods, and is likely to cause confusion or the mark is to plagiarize, counterfeit or translate any registered well-known trademarks of another party in respect of different or dissimilar goods, and mislead the public and lead to possible damage to the benefit of the mark’s owner. See Amended Trademark Law, arts. 13 & 14.

46. See amended Patent Law, art. 11; TRIPS, *supra* note 24, art. 28(1).

47. TRIPS provided, “if the subject matter of a patent is a process for obtaining a product, the judicial authorities shall have the authority to order the defendant to prove that the process to obtain an identical product is different from the patented process.” TRIPS, *supra* note 24, art. 34(1).

The old PRC Patent Law Art. 60 provided that “when any infringement dispute arises, if the patent for invention is a process for the manufacture of a new product, any entity or individual manufacturing the identical product shall furnish proof of the process used in the manufacture of its or his product.” The new Patent Law Art. 57 provides: “. . . [w]hen any infringement disputes relates to a process patent for the manufacturing of a new product, and entity or individual manufacturing the identical product shall furnish proof to the effect that a different process is used in the manufacture of its or his products. . .”

48. TRIPS provides, where use by the government or third parties authorized by the government is authorized to permit the exploitation of a patent (“the second patent”) which cannot be exploited without infringing another patent (“the first patent”), the invention claimed in the second patent shall involve “an important technical advance of considerable economic significance in relation to the invention claimed in the first patent.” TRIPS, *supra* note 24, art. 31(1)(i).

The old PRC Patent Law Art. 53 provided, “where the invention or utility model for which the patent right was granted is technically more advanced than another invention or utility model for which a patent right has been granted earlier and the exploitation of the later invention or utility model depends on the exploitation of the earlier invention or utility model, the Patent Office may, upon the request of the later patentee, grant a compulsory license to exploit the earlier invention or utility model.” The new Patent Law Art. 50 provided, “where the invention or utility model for which the patent right was granted is of important technical advance of considerable economic significance compared with another invention or utility model for which a patent right has been granted earlier and the exploitation of the later invention or utility model depends on the exploitation of the earlier invention or utility model, the patent administrative organ under the State Council may, upon the request of the later patentee, grant a compulsory license to exploit the earlier invention or utility model.”

B. PROCEDURAL CHANGES

Procedural changes to Chinese IP laws focus on three aspects. First, there is increased judicial power in deciding IP cases. For example, the amended Trademark Law provides that parties can sue if they do not agree with the administrative decision concerning their application for registration, opposition to a trademark and maintenance or cancellation of a registered trademark.⁴⁹ The new Patent Law replaced administrative organs, such as the Patent Reexamination Board (PRB), with courts to render final decisions on patent examination and invalidation.⁵⁰ Second, under TRIPS, temporary relief and evidence preservation measures shall be provided to the injured parties.⁵¹ All three major Chinese IP laws have been amended to include such measures.⁵² Third, the amendments to the three IP laws ad-

49. According to TRIPS, procedures concerning the acquisition or maintenance of intellectual property rights and, where a WTO member's law provides for such procedures, administrative revocation and inter-parties procedures such as opposition, revocation and cancellation, final administrative decisions in such procedures shall be subject to review by a judicial or quasi-judicial authority. TRIPS, *supra* note 24, arts. 64(4)-(5). The previous Trademark Law Arts. 21, 22, 29 and 35 provided that administrative decisions on application for registration, opposition to a trademark, and the maintaining or canceling of a registered trademark will be final.

50. Art. 43 of the old Patent Law provided, "the decision of the Patent Reexamination Board in respect of any request, made by the applicant, the patentee or the person who made the request for revocation of the patent right, for reexamination concerning a utility model or design is final." Art. 49 provided, "the decision of the Patent Reexamination Board in respect of a request to declare invalid the patent right for utility model or design is final."

TRIPS requires that parties to a proceeding shall have an opportunity for review by a judicial authority of final administrative decisions and, subject to jurisdictional provisions in a WTO member's law concerning the importance of a case, of at least the legal aspects of initial judicial decisions on the merits of a case. TRIPS, *supra* note 24, art. 41(1).

51. TRIPS provides, "the judicial authorities shall have the authority to order prompt and effective provisional measures (a) to prevent an infringement of any intellectual property right from occurring, and in particular to prevent the entry into the channels of commerce in their jurisdiction of goods, including imported goods immediately after customs clearance; (b) to preserve relevant evidence in regard to the alleged infringement." *Id.* art. 50(1).

Also, "the judicial authorities shall have the authority to adopt provisional measures *inaudita altera parte* where appropriate, in particular where any delay is likely to cause irreparable harm to the right holder, or where there is a demonstrable risk of evidence being destroyed." *Id.* art. 50(2).

52. The amendment to Chinese Trademark Law Arts 57 and 58 provides that the trademark right proprietor could, if they hold evidence showing a party is infringing or will infringe the trademark right, and the damage resulted to the legal right and benefit irredeemable, apply to court for an order to the stop the infringement or apply for property preservation.

Property preservation measure was provided by PRC Civil Procedure Law, ch. IX, but not in the old Patent Law. The new Patent Law Art. 61 allows "patentees or interested parties who can provide any reasonable evidence that his rights is being infringe or that such infringement is imminent, and any delay to stop the acts is

justed the method of calculating damages to provide the injured party with more adequate damage awards.⁵³ Generally, damage awards are now calculated on the basis of the profit made by the infringer or the losses suffered by the infringed, including costs for stopping the infringement.⁵⁴ For computer software, the revised Regulation gave judges discretion to award damages based on either losses or profit, or a statutory amount ranging from RMB5,000 (US\$604.81) to RMB50,000 (US\$6,048.07).⁵⁵

C. NON-COMPLYING ASPECTS

Despite these changes, there are still some aspects in Chinese IP laws that are not in line with TRIPS. For example, under the Chinese Copyright Law, a computer program is still not protected as a "literary work."⁵⁶ With respect to the Chinese Trademark Law, the following aspects are problematic: (1) only goods, not services, are mentioned in the protection of well-known marks,⁵⁷ (2) registration is required for well-known marks,⁵⁸ and (3) no protection is provided for geographical indications for wines and spirits.⁵⁹ Compared to the Chinese Copyright and Trademark laws, the Chinese Patent Law does not substantially deviate from TRIPS.

Further, the Chinese Anti-Unfair Competition Law (AUCL) requires "practicability" for a trade secret to be pro-

likely to cause irreparable harm to his or its legitimate right and, he or it may, before instituting legal proceedings, request the people's court to order the suspension of related acts and to provide property preservation" and the court will deal with such requests referring to articles 93, 96 and 99 of the PRC Civil Procedure Law.

53. According to TRIPS, "the judicial authorities shall also have the authority to order the infringer to pay the right holder expenses, which may include appropriate attorney's fees. In appropriate cases, Members may authorize the judicial authorities to order recovery of profits and/or payment of pre-established damages even where the infringer did not knowingly, or with reasonable grounds to know, engage in infringing activity." TRIPS, *supra* note 24, art. 45(2).

54. For example, the amended Chinese Trademark Law Art. 56 provided, "the amount of compensation for infringement shall be the profit the infringer has earned by infringing the TM right during the period of infringement, or the damages that the infringer has suffered by infringing the TM right during the period of infringement, including reasonable expense incurred by the infringer for stopping the infringement."

55. See Regulations on Computer Software Protection, art. 24 (2002).

56. TRIPS provides, "Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971)." TRIPS, *supra* note 24, art. 10(1).

57. TRIPS extends the protection of Art. 6 of the Paris Convention to services. TRIPS, *supra* note 24.

58. No registration is required under TRIPS, at least in respect of use for identical or similar goods or services. TRIPS, *supra* note 24.

59. This is specifically required under TRIPS. See TRIPS, *supra* note 24, arts. 23 (1), (2), (3) and (4).

tected,⁶⁰ while no such requirement exists in TRIPS.⁶¹ Finally, China has not provided protection for data concerning the marketing of pharmaceutical or agricultural chemical products that utilize new chemical entities, as required by TRIPS.⁶²

The fact that these non-complying aspects have not impeded China from entering into the WTO indicates that, as John Jackson pointed out, the WTO does tolerate differences, albeit partly for political reasons.⁶³ On the other hand, this also raises a question as to whether the aim of TRIPS to unify IPRs standard worldwide is practical.

IV. DEVELOPMENTS OF CHINESE IP INDUSTRIES

In the past two decades, Chinese IP intensive industries have experienced remarkable growth. The following data and facts demonstrate such growth as well as the potential for further development of the industries involving copyright, trademark, and patent protection.

Since the 1990s, China has become a significant center for publishing. The number of published book titles increased from 92,972 in 1991 to 110,283 in 1996, compared to the increase in the US from 48,146 in 1991 to 68,175 in 1996, and the increase in Japan from 35,496 in 1991 to 56,221 in 1996.⁶⁴ The software industry grew even faster, with an average annual growth rate of 28%.⁶⁵ Software companies, which only appeared in the late 1980s, mushroomed in the 1990s, providing 61,346 jobs and gen-

60. Anti-Unfair Competition Law [hereinafter AUCL], art. 10.

61. According to TRIPS, if a piece of information "(a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; (b) has commercial value because it is secret; and (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret, then it should be protected." TRIPS, *supra* note 24, art. 39(2).

62. According to TRIPS, when a WTO member is "requiring, as a condition of approving the marketing of pharmaceutical or of agricultural chemical products which utilize new chemical entities, the submission of undisclosed test or other data, the origination of which involves a considerable effort, shall protect such data against unfair commercial use" and also, a WTO member "shall protect such data against disclosure, except where necessary to protect the public, or unless steps are taken to ensure that the data are protected against unfair commercial use." *Id.* art. 39(3).

63. See John Jackson, *The Institutional Ramifications of China's Accession to the WTO, in CHINA IN THE WORLD TRADING SYSTEM: DEFINING THE PRINCIPLES OF ENGAGEMENT* 78 (Frederick M. Abbott ed., 1998).

64. MASKUS, *supra* note 4, at 72.

65. PricewaterhouseCoopers, *Contribution of the Software Industry to the Chinese Economy*, November 1998, at http://www.bsa.org/usa/global/lib/econ/china_study98.pdf, [hereinafter PricewaterhouseCoopers'] at 1.

erating US\$219.8 million in tax revenues in 1997 alone.⁶⁶ The market for film and broadcasting also has great potential. It was estimated that, in 1999, the television reception rate reached 91.6% in China. Chinese movie market had US\$10 to \$15 billion in yearly profits, with a further 5.1% growth each year in the future.⁶⁷

Trademark applications in China have been increasing at an amazing rate. In 1990, there was a total of 57,272 applications, of which resident applications constituted 50,853 and nonresident applications constituted 6,419; however, in 1996, there was a total of 150,074 applications in which resident applications constituted 122,057 and nonresident applications constituted 28,017.⁶⁸ These numbers reflect a growth rate of 163% in 6 years! The fact that the number of resident applications far exceeds the number of nonresident applications indicates that Chinese domestic enterprises have been vigilant in using trademarks to protect their brand names.

In recent years, the number of patent applications, both domestic and foreign, have been increasing dramatically. According to a report, the patent applications in China increased with an annual rate of 17.9% since 1985.⁶⁹ In the year 2001, the Chinese State Intellectual Property Office (SIPO) received a total of 203,586 patent applications, an increase of 29% over the number received in 2000.⁷⁰ Of the total number of patent applications, 165,687 were domestic (an increase of 18%), while 37,889 were foreign (an increase of 25%).⁷¹ Among the filings for invention patents, hot areas include Chinese character inputting schemes, "new-type" color TV sets, CD-ROM, and radio transmission technology.⁷² Traditional industries such as Chinese herbal medicine, food, non-alcoholic beverages, waste-water treatment, pharmaceuticals, cosmetics, and computer applications continue to be popular among Chinese inventors.⁷³ These figures and

66. According to a PricewaterhouseCoopers' study, "in China, few sectors of the economy can expect to exceed the performance of the software industry." *Id.* at 1.

67. Liu Zhiyuan, *Jiaru WTO, Yingshi Chanye Ruhe Miandui* [How Movie and TV Industries Face the WTO], *ZHONGGUO JINGJI SHIBAO* [CHINA ECON. TIMES], Apr. 6, 2000, at 8.

68. See MASKUS, *supra* note 4, at 70.

69. By the end of November 2001, the SIPO had received about 1.351 million patent applications. See *China Protects Intellectual Property*, CCTV.COM NEWS, at <http://www.cctv.com/English/news/20011226/77186.html> (last visited Feb. 4, 2003).

70. [E2009] 2001 Patent Applications in China, WHAT'S NEW?, at <http://uschis.nand.com/e-mian.html>.

71. *Id.*

72. See Wu Xiaoming, *Concentration of Applications for Invention Patents and Its Analysis*, in 4 CHINA PATENTS & TRADEMARKS 32, 33 (2000).

73. *Id.*

facts indicate that Chinese people are beginning to harness their inventive power and enjoy the protections provided by the patent system.

V. PROBLEMS PLAGUING THE CHINESE IP INDUSTRIES

Despite the above achievements, the Chinese IP industries have been troubled by many problems; troubled to the point of threatening the survival of the industries. These problems include, inter alia, piracy, counterfeiting and infringement of IPRs, and the low level of technology and lack of human and financial resources for research and development (“R&D”).

A. PIRACY, COUNTERFEITING, AND INFRINGEMENT

China has been named “the worst country in the world for copyright infringement and trademark violations, costing artists, writers, computer software developers, designers, drug companies, shampoo makers — just about anyone with a product for sale — billions of dollars a year.”⁷⁴ The International Intellectual Property Alliance estimates that in 2001, losses from music, software, and books reached US\$1.5 billion.⁷⁵ Although the publication industry experienced fast growth in recent years, the overall condition of the retail book market in China does not correspond to the stronger IPR protections arising out of globalization. Rampant piracy in China’s retail book market has triggered international trade disputes.⁷⁶ For example, in 1995, a Beijing court found the Beijing Publishing House guilty of infringing a copyright of the Walt Disney Company by illegally printing and distributing nine Disney children’s books, causing the latter economic losses of more than RMB1.77 million (about US\$221,250).⁷⁷ One of the reasons for the widespread piracy is that both Chinese consumers and copyright holders lack an understanding of IPRs enforcement. Normally, publishers and authors only publish declarations and warnings in cases of infringement and do not want to take cases to court.⁷⁸ In addition, the large volume of information involved renders publishers

74. John Pomfret, *Chinese Pirates Rob ‘Harry’ of Magic, and Fees*, WASHINGTON POST, Nov. 1, 2002, at A01, available at <http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A49351-2002Oct31.html>.

75. *Id.*

76. Zhang Huiguan, *Chinese Publishing Resale Market in the Wave of Globalization*, 2 CHUBAN GUANGCHANG 7, 7 (2001).

77. Walt Disney Co. v. Beijing Publishing House et al., (Beijing Municipal No. 1 Intermediate People’s Court), 4 CHINA PATENT & TRADEMARKS 81 (1999).

78. Shao Wei & Xin Yue, *Combating Piracy by United Force*, 2 CHUBAN GUANGCHANG 12, 13 (1999).

unable to obtain the permission of copyright holders before using their works because the publishing industries in China generally lack the computer technology that allows them to check publication and copyright information.

As for the software industry, the sales of software in China remain consistently low compared with those in other countries, and many Chinese software companies have been struggling to survive.⁷⁹ This situation is largely attributed to the rampant software piracy spreading across China. Only 4% of the software in use in China are estimated to be legitimate.⁸⁰ Software piracy has become the number one factor obstructing the development of the software industry.⁸¹ It harms the Chinese software industry as much as it harms foreign investors,⁸² because piracy of foreign software may help to increase the market share of foreign software firms and “make[s] it more difficult for local competitors to establish themselves.”⁸³ Piracy also makes local software firms “unable to sell enough software to prosper.”⁸⁴

As to the industries involving trademark protection, the problem of trademark infringement and counterfeiting is aston-

79. For example, in 2000, the total sales profits for the whole world reached 540 billion USD, while profits in China only reached 22.5 billion RMB. Where as India exported US\$4 billion worth of software, China only exported US\$1.3 million. See Zong Jian, *Interview with Software Entrepreneurs of Small and Medium Enterprises*, XINYANG DAILY, Apr. 9, 2001, at 11, available at http://www.wisenews.net/wisenews-cgi/enterprise/doc.pip?misspath=/God/raw/dtp/txt/sy_sydaily.

80. Tackaberry, *supra* note 9, at 7.

81. *The Publication of the 'Survey Report on Social Environment of Chinese Software Industry'*, CHINA INTELL. PROP. NEWS, Sept. 15, 2000, at 1.

82. For example, Alford pointed out, “The most significant rationale for intellectual property law lies with the welfare of the Chinese people themselves. They are now, and seem likely in the foreseeable future to continue to be, the greatest victims of the infringement of intellectual property that is rampant throughout that vast nation.” William Alford, *Making the World Safe for What? Intellectual Property Rights, Human Rights, and Foreign Economic Policy in the Post-European Cold War World*, in CHINESE INTELLECTUAL PROPERTY LAW & PRACTICE 147 (Mark Cohen et al. eds., 1999). And “the rapid development of China’s own software industry depends upon full protection for software producers under the law. . . the fact is, piracy is a form of stealing that hurts China and Chinese software producers as much as it hurts their foreign counterparts.” Spierer, *supra* note 7, at 7 (citing Sephanie Mitchell).

83. Tackaberry, *supra* note 9, at 8 (quoting Emily Thornton, *At China’s Gates: Microsoft Boss Conquers a Key Asian Market*, FAR E. ECON. REV., Dec. 21, 1995, at 54-55.). See Teran, *supra* note 8, at 6 (indicating that an associate at Microsoft stated that the company did not have a choice in deciding whether to market their products in China because “our products were already in China, and they were being supplied by software pirates”).

84. This is a view expressed by Bo Liu, former Deputy General Manager of Microsoft China. See *China: Protecting the Knowledge-based Economy and Intellectual Property Rights*, COUNTRY PANEL IV, HARVARD ASIA BUSINESS CONFERENCE, Feb. 2-3, 2001, available at <http://www.fas.harvard.edu/~asiactr/haq/200102/0102a001cp5.htm>.

ishing. China has been called “the largest counterfeiter in the world.”⁸⁵ China’s Development Research Center estimated that counterfeiting in China is a US\$16 billion industry.⁸⁶ Counterfeiters in China target not only famous foreign marks such as Microsoft, Nokia, and Marlboro, but also target famous domestic products. The effects of trademark infringement on China’s innovative enterprises are significant and detrimental. Chinese producers faced tremendous difficulties in establishing their own brands of consumer goods and quickly found that once a brand was established, their trademarks were applied by others to counterfeit products.⁸⁷ Counterfeiting is especially serious in the tobacco⁸⁸ and Chinese medicine industries.⁸⁹ As Maskus found, products with low capital and high labor requirements, factors in which China have a comparative advantage, are particular targets for infringement.⁹⁰

Infringement of patent rights has been the most serious problem facing China’s patent industries for two reasons: Chinese culture and tradition which view imitation as an acceptable practice,⁹¹ and the low level of technological advancement and weak innovative power of these industries. The agrochemical, pharmaceutical, petrochemical, and chemical industries still heavily rely on the imitation and reverse engineering of foreign products.⁹² Imitation and counterfeiting in the pharmaceutical industry is especially serious. About 98% of drugs in China are

85. *China Faces Up to Its Counterfeiters: Conscious of the New Obligation that WTO Membership Will Bring, the Country is Rushing to Implement Anti-counterfeiting Campaigns and Promises of Tough New Laws to Assuage Fears*, IRISH TIMES, June 2001, (City Ed; Business & Finance), at 52. John Donaldson and Rebecca Weiner thoroughly discussed the problem of piracy in China in their article “Swashbuckling the Pirates.” John Donaldson & Rebecca Weiner, *Swashbuckling the Pirates: A Communications-Based Approach to IPR Protection in China*, in CHINESE INTELLECTUAL PROPERTY LAW AND PRACTICE (Mark Cohen, et al. eds., 1999).

86. Timothy P. Trainer, *The Fight Against Trademark Counterfeiting*, CHINA BUS. REV., 2002, available at <http://www.chinabusinessreview.com>.

87. MASKUS, *supra* note 4, at 149.

88. *See A Long Way to Go for Combating Counterfeiting Tobaccos: Interview with the Deputy Director of National Tobacco Sales Bureau*, LEGAL DAILY, Mar. 14, 2001 (Chinese text).

89. *See Hundred Year Old Enterprise Has a New Opportunity*, CHINA BUS. TIMES July 24, 2001, at 3 (Chinese text). For example, an estimated 60% of “Dragon and Tiger” and “Temple of Heaven” medicinal oils on the market were counterfeits in the year 2000.

90. MASKUS, *supra* note 4, at 149.

91. *See Guo Shiping, The Challenges of WTO and the Coping Strategies*, 291 HONG KONG ECON. J. MONTHLY 3, 7 (2000) (Chinese text).

92. *See China’s Pharmaceutical Enterprises Facing the Entry of the WTO*, CHINA INTELL. PROP. NEWS, Mar. 8, 2000, at 3 [hereinafter *China’s Pharmaceutical Enterprises*] (Chinese text).

estimated to be imitations of foreign drugs.⁹³ The technologies used in the petrochemical and chemical industries are so backward that these industries have to virtually rely on technologies that have already been abandoned by foreign countries.⁹⁴ Products from the machinery industry are seldom under domestic patent protection. Most technologies involved in newly-developed products come from foreign countries.⁹⁵ This problem is particularly serious in the auto industry, which either imports or imitates new technologies of the foreign auto industry, because it has long enjoyed government protection and lacked the pressure to innovate.⁹⁶

B. BRAIN DRAIN, LACK OF FUNDING, AND LOW LEVEL OF TECHNOLOGICAL ADVANCEMENTS

It is not a secret that China is losing its most talented people to western countries, particularly the United States. Many graduates of China's best universities either study and work in the US or are recruited by US firms in China. As a result, Chinese IP intensive industries, particularly the software industry, have been suffering the problem of brain drain.⁹⁷

In the patent arena, in addition to the lack of incentives to innovate, the low level of technological advancements was also caused by the lack of research and development ("R&D") facilities and funds. Few Chinese companies that produce audio-visual equipment have their own R&D centers; therefore these companies are only suitable for processing products from foreign

93. See *Three Letters that Rattle China's Poise: The Name 'WTO' Prompts Mixed Feelings as Employees Prepare for The Rigours of Membership*, FIN. TIMES, Jan. 11, 2001 (London Ed.), at 9.

94. See Xu Donghua, *The impact of WTO entry on China's petrochemical and chemical industries*, CHINESE CHEMICAL INDUSTRIES NEWS, Apr. 10, 2001, at 5 (Chinese text).

95. See *The Impact of WTO Entry on China's Machinery Industry and the Major Strategies of Dealing with It*, CHINA ECON. TIMES, Apr. 20, 2001, at 8 (Chinese text).

96. See *The Three Thresholds China's Car Industry is Facing in Entering into the WTO*, JIANG NAN METROPOLITAN, July 31, 2001, at 24 (Chinese text).

97. According to a report, 13% of Qinghua University graduates and 20% of Beijing University graduates are going abroad each year. The Research Institute of Microsoft (China) has 60 people, all of whom are Chinese who graduated from the best Chinese universities. See CHINA SCIENCE AND TECHNOLOGY DEVELOPMENT RESEARCH GROUP (ED.), *THE REPORT ON CHINA'S SCIENCE AND TECHNOLOGY DEVELOPMENT (2000) - THE GLOBALIZATION OF SCIENCE AND TECHNOLOGY AND THE CHALLENGES CHINA IS FACING* 111 (Chinese text). Another report says that Chinese universities have not offered curricula on software development, nor are comprehensive training materials available, and as a consequence, China's IT industry is short 420,000 personnel. See Re Feng, *Where is China's Silicon Valley?*, THE TREND MAGAZINE, at 42 (Chinese text).

companies.⁹⁸ Since audio-visual equipment parts are under the protection of foreign patents, Chinese companies cannot procure much profit from their production for export.⁹⁹

VI. CHALLENGES TO THE CHINESE IP INDUSTRIES AFTER THE WTO

In addition to the above problems, Chinese IP intensive industries are facing new challenges after China's entry into the WTO. These challenges include fulfilling WTO commitments, meeting tougher foreign competition, as well as receiving closer scrutiny on piracy and other infringement activities.

A. FULFILLING PROMISES AND FOREIGN COMPETITION

Under a Sino-US bilateral agreement signed prior to China's WTO accession in fall 1999,¹⁰⁰ China is obliged to import twenty foreign films in the first year of entry and forty to fifty films in the third year. In addition, foreign firms can form joint ventures to distribute video and sound recordings.¹⁰¹ China also agreed to grant foreign firms up to 49% of ownership, with an extension to 50% in the second year after accession, in telecommunications including internet content and services.¹⁰² After entry into the WTO, foreign companies can also engage in publishing and book retailing in China directly or through forming a joint venture. They may expand their market share by establishing readers clubs, internet book retailing, or franchise book stores in China.¹⁰³ This competition will place great pressure on China's domestic copyright industries, which have been operating within a planned and backward management system for many decades. Although the potential is great, particularly in developing application software, the software industry is faced with strong competition from the West in developing operating systems software.¹⁰⁴

98. See *China's Audio-Visuals Going to the World Market*, CHINA ELECTRONICS NEWS, May 17, 2001, at 4 (Chinese text).

99. *Id.*

100. The process of negotiating the WTO protocol of accession required China to reach bilateral agreements with WTO members.

101. PITMAN POTTER, *THE CHINESE LEGAL SYSTEM: GLOBALIZATION AND LOCAL LEGAL CULTURE* 130 (2001).

102. *Id.* The same requirement was provided in the Sino-Canadian bilateral agreement.

103. Zhang Huiguang, *China's Book Retailing Market Under the Wave of Economic Globalization*, 2 PUBLISHING SQUARE 6, 7 (2001).

104. *Chinese Software Industry Has Great Potential*, PEOPLE'S DAILY, May 12, 2000, available at http://english.peopledaily.com.cn/200005/12/eng20000512_40699.html.

In the area of trademark, the competition between domestic marks and foreign marks has become fiercer after China's accession to WTO. Beginning in the 1990s, foreign investors started to export their trademarks as their most valuable assets in investment.¹⁰⁵ Consequently, brand name foreign products have conquered a large portion of the Chinese consumer market, to the detriment of Chinese brand names and marks. In addition, foreign companies have also gradually overtaken Chinese famous marks and brand names by way of forming joint ventures with Chinese companies.¹⁰⁶ For example, after Kodak bought a Xiamen film company, the Chinese mark "Fuda" disappeared from the market.¹⁰⁷ Although another Xiamen company's mark "Tong Si Da" survived after forming a joint venture with General Electric (GE), only 5% of its products were sold in the domestic market with the Chinese trademark. The other 95% of its products were exported to the US and other markets using GE's trademark.¹⁰⁸ We can expect that the trend of foreign marks overtaking Chinese marks will continue as there will be more foreign investors trying to occupy the Chinese market. In fact, foreign retailers have accelerated the pace of their entering into the Chinese market since China's entry into the WTO and now account for 23% of the large supermarkets in China now.¹⁰⁹

Another challenge for Chinese entrepreneurs is protecting their trademarks from misappropriation. In recent years, famous Chinese marks have increasingly been misappropriated and registered by foreign companies. For example, in 1989, the Beijing Medicinal Herb Corporation found that its "Tong Ren Tang" trademark (for Chinese medicine) was preemptively registered by a manufacturer in Japan.¹¹⁰ In another case, a well-known mark of sewing machines by a Shanghai company, "Butterfly," was preemptively registered by an Indonesian businessman in Indonesia.¹¹¹ A company in Germany was found to have registered a trademark, "Dragon and Tiger" (for Chinese medicine)

105. Yu Ying, *China's Use of Foreign Capitals in 20 Year*, FORTUNE CHINA, Aug/Sep 1999, at C3, C7.

106. *The Status and Future of Domestic Brand*, CHINA REFORM NEWS, July 4, 2000, at 1; *MeiJaJin's Sense of Intellectual Property Protection*, CHINA INTELL. PROP. NEWS, Apr. 2000, at 1.

107. *Thoughts on Disappearance of Trademarks in Xiamen*, CHINA INTELL. PROP. NEWS, Dec. 22, 2000, at 1.

108. *Id.*

109. *Foreign Supermarkets Gain Bigger Share after WTO Entry*, XINHUA NEWS AGENCY, Sept. 25, 2002, available at <http://www.china.org.cn/English/government/43976.htm>.

110. Zhang Junqin, *Protection of Well-known Marks in China*, 3 CHINA PATENTS & TRADEMARKS 40, (2001).

111. *Id.*

which belonged to a Shanghai Chinese Pharmaceutical company, in fourteen countries.¹¹²

After entry into the WTO, Chinese IP industries face great challenges in improving and patenting their own technologies because they cannot rely upon reverse engineering or the imitation of foreign products to survive. As previously mentioned, in infringement disputes relating to process patents, the burden is now on the defendant to prove that his process differs from the already patented process.¹¹³ This requirement makes it difficult for Chinese IP industries to compete with their foreign competitors through reverse engineering or imitation. If imitation (legally or illegally) becomes impossible, Chinese IP industries might have to resort to obtaining licenses for using the patented foreign technologies. However, importing technologies through licensing means higher production costs. In film production, for example, it was reported that Chinese film industries had difficulties in importing new technologies such as computer graphics due to the high licensing fees.¹¹⁴ Even if money is not a problem, it is doubtful whether Chinese companies will be able to obtain these licenses because private firms are increasingly reluctant to license out their technologies for fear of losing technology or market power to competitors.¹¹⁵ Among various industries, the chemical and pharmaceutical industries will have the hardest time since foreign firms will place more stringent conditions on the acquisition of the technologies in these areas.¹¹⁶ It was reported that the Chinese pharmaceutical industry has not been able to obtain foreign formulas that were still under patent protection.¹¹⁷

Even if imitations could survive, foreign enterprises will take advantage of their abundance of capital to flood the Chinese market with their high technologies and low prices.¹¹⁸ The prices for foreign products will be lowered after tariffs are reduced because of the WTO accession, e.g., from between 25% and 30% to

112. See *Trademarks: The First Threshold of IP Protection for Pharmaceuticals*, CHINESE LABOR NEWS, July 19, 2001 (Chinese text).

113. See *supra* note 46.

114. See Liu Zhiyuan, *How Film Industry Faces the Entry of the WTO?*, CHINA ECON. TIMES, Apr. 6, 2000, at 8 (reprinted in 3 RESEARCHES IN MOVIE AND TV ARTS 8 [2000]) (Chinese text).

115. John H. Barton, *The Economic and Legal Context of Contemporary Technology Transfer*, in THE LAW & ECONOMICS OF DEVELOPMENT 85 (Edgardo Buscaglia et al. eds., 1997).

116. See *Giving Another Kind of Protection to Petrochemical and Chemical Industry*, CHINESE J. ECON., Mar. 22, 2001 (Chinese text).

117. See CHINA SCIENCE & TECHNOLOGY DEVELOPMENT RESEARCH GROUP, *supra* note 97, at 109.

118. See *Speeding Up Innovation, Increasing Real Power and Fight Back Positively: the CEO of Huazhong Pharmaceutical Groups Talks About the Entry of the WTO*, CHINA INTEL. PROP. NEWS, May 31, 2000, at 3 (Chinese text).

between 5.5% and 6.5% for foreign pharmaceuticals. Consequently, imported drugs will enjoy a larger market share and domestic pharmaceutical companies will face difficulties in selling their imitations.¹¹⁹ It is notable that western pharmaceutical companies have already occupied 40% of the Chinese market.¹²⁰ The foreign competition could hinder China's pharmaceutical industry from developing new drugs, or even drive them out of business.

In contrast, foreign companies have in recent years increased their patent applications in China to occupy the market. For example, from January to June 2002, SIPO accepted 21,534 patent applications from foreign countries, compared with 19,171 in the period of July to December 2001.¹²¹

Apart from the competition for market share, another form of intense competition after the accession to the WTO is the competition for human resources. More than 100 research and development centers have been established in China by large multinationals such as Intel and Microsoft, and they have been aggressively recruiting Chinese professionals in science, technology, and business management.¹²²

B. CLOSER SCRUTINY AND INTENSIFIED CRACKING-DOWN ON PIRACY

After the accession to WTO, piracy of IPRs will receive tougher scrutiny from both domestic and international law enforcement and private entities. For example, US film companies have reportedly established offices in China to monitor the pirating of US films and other IPR infringement activities.¹²³ As a result, video showings in public halls, a popular and profitable business in China, may close down as most of the VCDs played are of pirated American movies meant for private home use.¹²⁴ Shanghai has already closed several video-showing halls and Zhuhai also followed suit.¹²⁵ In the audio-visual products industry, foreign producers will likely join domestic producers in com-

119. See Wang Yaping, *The Trend of Development of China's Major Traditional Industries During the 10th Five-year plan*, 5 THE ADMIN. OF NAT'L CAPITALS & PROP., 4, 6 (Chinese text).

120. See *China's Pharmaceutical Enterprises*, *supra* note 92.

121. See CHINA PATENTS & TRADEMARKS, statistics in Vols. 68, 69, 70 & 71, (2001 & 2002).

122. NPC Deputy Warns of Brain Drain After WTO Entry: *Localization of employees has become a trend in multinationals*, PEOPLE'S DAILY, Mar. 11, 2002, available at <http://www.china.org.cn/english/2002/Mar/28549.htm>.

123. *Video Showing Business Comes to its End*, CHINA BUS. DAILY, Apr. 10, 2001.

124. *Id.*

125. *Id.*

bating piracy, in order to occupy a larger market share in China.¹²⁶ One year after the accession, a Chinese publishing house was fined US\$2,500 for printing and distributing a faked Harry Potter novel.¹²⁷

As for the counterfeiting of brand marks and names, multinationals such as Coca-Cola, Compaq, Gillette, Henke, Johnson & Johnson, and Nike formed associations such as the International AntiCounterfeiting Coalition, Inc. and Quality Brands Protection Committee (QBPC) to fight for product protection in China.¹²⁸ They have been trying to develop high technology to detect and prevent counterfeiting.¹²⁹ In 2000, Procter & Gamble's (P&G's) anti-counterfeiting team cooperated with local governments across China to set up more than 670 raids in seventeen provinces, seizing 790,000 cases of fake P&G branded products worth nearly US\$23 million.¹³⁰

In the area of patent protection, foreign enterprises will pay special attention to the imitation and reverse engineering of their products by Chinese counterparts before entering into the Chinese market.¹³¹ For example, one foreign company hired a patent manager on a part-time basis to consult and educate every department of the enterprise on patent issues, and to report to the home office on infringement of the enterprise's patents.¹³²

Despite the efforts by both the Chinese government and multinationals, a year after the accession to the WTO, the piracy and all forms of IPRs infringement of optical media (CDs, VCDs and DVDs), software, books and journals, as well as well-known marks in China, still remain at an "unacceptably high level," and the U.S. Trade Representative (USTR) urged China to lower its threshold of criminal sanction to deter these infringement activities.¹³³

126. Liu Guoxiong, *The Thoughts before the WTO Admission*, 1 COPYRIGHT 23, 24 (2001).

127. Pomfret, *supra* note 73.

128. Trainer, *supra* note 86. See also, *EU on the Attack against Infringement*, IPASIA, Sept. 2000, at 3; & *Multinational Group Increases Anti-counterfeiting Momentum*, IPASIA, Feb. 2001, at 10.

129. See Lu Tao & Gao Mei, *Why counterfeiting cannot be stopped?*, 4 ECON. & L. 31 (1999).

130. *China faces up to its counterfeiters*, IRISH TIMES, June 29, 2001, available at http://web.lexis-nexis.com/universe/document?_ansset=Ahhypen_inline>WA-A-ACZ-MSSEZE-UUW-EEDV...2001/8/8.

131. See *Transnational companies are watching closely Chinese market: Chinese pharmaceutical industries prepared to fight collectively*, CHINESE ENTERPRISE DAILY, Aug. 2, 2001 (Chinese text).

132. See *The awakening of SanQiang People's patent awareness*, CHINA INTELL. PROP NEWS, June 7, 2000, at 3 (Chinese text).

133. Robert Zoellick, *2002 Special 301 Decision*, Apr. 30, 2002, at <http://www.usembassy-china.org.cn/econ/special301-306.htm>.

VII. PREPARING FOR THE WTO CHALLENGES

To prepare for the WTO, China's Central Communist Party School, for the first time, opened its doors to the capitalists of private enterprises, who thirst for the knowledge of WTO-related rules.¹³⁴ This unprecedented event demonstrated the seriousness of Chinese people about the WTO. As China becomes one of the major players in the international trade of IP products, the impact of TRIPS and foreign competition on China's international trade will naturally become a focus of the Chinese government and IP industries. In addition to the WTO training such as the one organized by the Party School, the Chinese government and IP industries have also been vigorous in, inter alia, strengthening IPRs protection, providing financial assistance in R&D and WTO related rules (including TRIPS) trainings, and most importantly enhancing the industries' own competitiveness.

A. STRENGTHENING IPRs PROTECTION

More and more Chinese IP industries have started to realize the importance of IPRs protection and intensify their own IPRs protection measures. In the meantime, they are also more willing to cooperate with the government or foreign organizations in cracking down on piracy and other activities which infringe on IPRs. For example, Chinese software companies have been very active in promoting the campaigns against piracy. They formed the China Software Alliance (CSA) in March 1995.¹³⁵ CSA successfully lobbied the NPC to emphasize the importance of having a separate software protection regulation, and also convinced the legislature "to add clauses that prohibit purchasers from trying to decipher software that makers had encrypted to prevent piracy."¹³⁶ To bolster enforcement, the CSA cooperated with the Business Software Alliance of the United States (BSA) to operate a national hotline for reporting piracy and wrote newspaper articles to promote public awareness of the enforcement of

134. *To Catch the WTO Express, Hundreds of Entrepreneurs of Private Enterprises Attended Party School*, Nov. 26, 2001, at <http://finance.sina.com.cn>, (Chinese text).

135. Their activities include, inter alia, promotion of the industry to consumers, facilitation of business cooperation among software companies, self-regulation, and representation of their interests to the government.

136. See Scott Kennedy, *In the Company of Markets: The Transformation of China's Political Economy*, 2002, at 257 (a dissertation submitted to the Faculty of Columbian College of Arts and Sciences of the George Washington University).

IP laws.¹³⁷ Larger local software firms have established internal controls such as hiring IP attorneys to protect their copyrights.¹³⁸

As mentioned in section 5.1, in the past several years, Chinese trademarks have increasingly been overtaken or misappropriated by foreign marks. Two important factors facilitated this process. First, many Chinese enterprises have not recognized the importance of their trademarks and thus undervalued their trademarks when they form joint ventures. For example, a Xiamen company registered the “*yinlu*” trademark and allowed its US joint venture partner to use the mark freely.¹³⁹ Second, domestic enterprises intentionally used foreign trademarks to satisfy Chinese people’s affinity for western goods. To change the situation, some scholars suggested that domestic enterprises should (1) pay more attention to the value of domestic marks instead of resorting easily to foreign marks to satisfy consumers’ taste; (2) take greater care to protect domestic trademarks from losing to the joint venture partners; (3) insist upon using domestic famous marks as the only marks when using foreign capital; (4) use the ownership of the famous marks as capital to form a joint venture; and (5) license the right to use domestic marks as much as possible.¹⁴⁰ For new marks developed under joint ventures, domestic enterprises were encouraged to sign an agreement to attain ownership of the marks before the joint venture terminates.¹⁴¹ In the meantime, well-known marks will receive protection under the amended Trademark Law. Many Chinese enterprises have already rushed to apply for registration of their marks as well-known marks in order to obtain better protection.¹⁴²

Patent has also started to receive greater attention among Chinese inventors and enterprises. As suggested by SIPO, polishing the skills in utilizing and manipulating the patent system is essential in facing the challenges brought by the WTO entry.¹⁴³ Chinese enterprises have suffered great losses in the past and will suffer even more in the international market for lacking the

137. *Id.* at 254.

138. The Heads of User Friend, Founder and Legend had jointly issued a resolution to the second plenum of the Ninth NPC in March 1999 on piracy issue. *Id.* at 255.

139. See *The Status and Future of Domestic Brand*, *supra* note 106.

140. Liu Haichun, International Protection of Trademarks under TRIPS, 3 SCI. TECH. & L. 52, 56 (2000).

141. *Id.*

142. See *Hundreds Well-Known Marks Will be Born*, XI’AN DAILY, Aug. 22, 2001 (Chinese text).

143. See *The Director of the State Intellectual Property Office Wang Jingchun Warns Enterprise to Use Patent to Defect Others’ Infringement*, STRAIT METROPOLITAN, June 28, 2001, A16 (Chinese text).

awareness or necessary knowledge of the patent system. Chinese scientists traditionally have only placed their emphasis on thesis publication, not on commercialization and the patenting of their inventions.¹⁴⁴ It has been estimated that only twenty percent of Chinese R&D results have been patented.¹⁴⁵ Others have lost potential protection through thesis publication, international cooperation and conferences. This situation is particularly serious in the traditional Chinese medicine industry in which doctors can easily reveal the composition and preparation method of drugs during their prescription.¹⁴⁶ Therefore, it is important to educate Chinese inventors and enterprises on how to use patents to protect their inventions and technologies. It has been reported that, in recent years, the traditional Chinese medicine industry has started to be aware of the seriousness of leakage of drug composition and therefore started to apply for patent protection.¹⁴⁷ In Guangzhou, for example, some Chinese medicine manufacturers actively applied for patents before China entered WTO.¹⁴⁸

Lastly, the establishment of a patent documentation database has also been recommended as an effective way to protect technological innovations of Chinese enterprises.¹⁴⁹ The stability of an intangible right like a patent right and its evaluation depends on documentation.¹⁵⁰ Obtaining a huge volume of information in technological research is a matter of first priority for large enterprises in fighting the patent battle.¹⁵¹ According to a successful enterprise, the use of a patent documentation database can help an enterprise to choose a correct topic to focus on (e.g., to avoid developing products/technologies that have been devel-

144. *Focusing on Industrialization of Patent*, CHINA INTELL. PROP. NEWS, Dec. 27, 2000, at 3 (Chinese text).

145. See CHINA SCIENCE & TECHNOLOGY DEVELOPMENT RESEARCH GROUP, *supra* note 97, at 114-115.

146. See *Protecting Chinese Medicine and Guarding Our Tradition*, PEOPLE'S DAILY (Market edition), June 29, 2001 (Chinese text).

147. See *Mainland experts admit that the IPRs of Chinese medicine are losing rapidly*, CHINESE CENTRAL NEWS, Aug. 5, 2001. See also, Yang Kun, *The rising of natural pharmaceutical enterprises and the opportunity for the development of Chinese medicine*, 4 R&D INFORMATION 8, 10 (2001) for a similar situation in Thailand.

148. See *Patent application increased 50 times in 15 years in Guangzhou and monopolists are seeking IPRs protection*, CHINA INTELL. PROP. NEWS, Apr. 26, 2000, at 1 (Chinese text).

149. *Id.*

150. See *The administrative methods of enterprise IPRs management*, CHINA INTELL. PROP. NEWS, Jan. 5, 2000, 3 (Chinese text).

151. See *It is more convenient for enterprises to search patent information: 'world patent database' and its search engine is going to be operated*, CHINA ECONOMIC TIMES, July 31, 2001, at 3 (Chinese text).

oped by others), to plan for export trade, and to establish manufacturing branches abroad.¹⁵²

B. INCREASING GOVERNMENT ASSISTANCE

Given that Chinese IP industries are still relatively young and inexperienced in international competition, government assistance in funding and training is indispensable for the industries' survival. It seems that Chinese governments, from central to local, have reached this conclusion. For example, to help the software industry grow, relevant Chinese government departments have provided, or are contemplating providing, the following assistance: setting up special funds for software development, providing preferential bank loans to software developers, and formulating preferential tax policies for the industry.¹⁵³

In the area of trademark protection, some people suggested that the Chinese government should play a role in promoting the competitiveness of valuable Chinese marks internationally.¹⁵⁴ Certain rules and regulations concerning the protection of domestic trademarks in the areas of transfer, investment, and joint ventures should be formulated. For example, the Regulations on Administration of Enterprises Trademarks provides that in the transfer of well-known marks, the value of the mark as well as the quantity and types of goods on which the mark is used should be estimated and stipulated.¹⁵⁵ A trademark resources database could be set up in state investment companies in order to promote better management and use of trademarks after estimating their market values.¹⁵⁶

Governments at various levels are also offering financial assistance in the area of patent applications, particularly for overseas applications. The government of Shanxi Province, for example, has been working on such a scheme.¹⁵⁷ The State Intellectual Property Office (SIPO) announced that in the year 2000 it will set up a special fund to assist domestic enterprises in their applications for technology patents abroad.¹⁵⁸ This move

152. See HAIER GROUP, *IPRs are Spear and Shield in Market Competition: the Role of IPRs in the Development of Haier Groups*, 1 INTEL. PROP. 5, 7 (2001) (Chinese text).

153. Guoxiong, *supra* note 126, at 24.

154. Liu Haichun, *supra* note 141, at 56.

155. *Id.*

156. *Id.*

157. See *Changing From a Patent-Technology Province to an Economic Powerful Province: Interview with the Deputy Governor of Shanxi province Chen Zhongxing*, CHINA INTEL. PROP. NEWS, Feb. 9, 2001, at 1 (Chinese text).

158. See *Companies Need Help to Fund Patent Applications Abroad*, IPASIA, Dec. 2000/Jan 2001, at 14.

boosted the number of patent applications by Chinese enterprises.¹⁵⁹

As mentioned in section 1.2, TRIPS has provided for developing countries more flexible treatment (or exceptions) of which developing countries can take advantage. For example, under TRIPS, WTO members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development.¹⁶⁰ Also, appropriate measures may be applied to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology.¹⁶¹ Scholars in China have suggested that the Chinese government should use these provisions to protect domestic industries that are less competitive. For example, one scholar suggested that, under certain circumstances, subsidies in agricultural production may be necessary because the WTO permits developing country members to subsidize domestic agricultural production up to a level of ten percent.¹⁶²

As a new member, China is still “learning the rules,” while old members are “playing the rules.”¹⁶³ Lacking expertise and professionals qualified on international rules may make China, as the chief negotiator for China’s WTO entry Long Yongtu worried, “a blind man riding a blind horse” within the WTO.¹⁶⁴ In August 2001, prior to WTO admission, the State Economic and Trade Commission (SETC) announced that it would set up a national training project to introduce WTO rules to provincial trade officials as well as entrepreneurs and management staffs of domestic enterprises.¹⁶⁵ In May of 2002, five months after the

159. The number of application in January to August 2001 has increased for 26.8% when compared to the same period in 2000. See *As the entry of the WTO is approaching, Enterprises speed up application for IPRs and SIPO accepted foreign and domestic patent applications increased more than 20% than last year*, PEOPLE’S DAILY (Overseas Edition), Aug. 15, 2001 (Chinese text).

160. TRIPS, *supra* note 24, art. 8(1).

161. *Id.* art. 8(2).

162. Sean Leonard, *WTO – What’s the Hold-up?*, CHINA L. & PRACTICE, Apr. 2001, at 53-54.

163. *Big Changes over the Past Half Year Since China’s WTO Entry*, PEOPLE’S DAILY, July 11, 2002, [hereinafter *Big changes*] available at <http://www.china.org.cn/english/36714.htm>.

164. Vivien Pik-Kwan Chan, *Chinese Economists Fear Favored West May Threaten Sovereignty*, S. CHINA MORNING POST, Nov. 13, 2001, available at <http://www.scmp.com>.

165. See *SETC Strengthens Training on WTO Principles*, PEOPLE’S DAILY, Aug. 22, 2001, at 2 (Chinese text).

WTO entry, the project was officially launched.¹⁶⁶ According to the Minister of Foreign Trade, Mr. Shi Guangsheng, the emphasis will be placed on educating enterprises to “suit themselves to the change in China’s foreign trade system and strive to incorporate enterprise development into the scope of China’s and even global economic and trade development.”¹⁶⁷

C. ENHANCING COMPETITIVENESS

After the entry into the WTO, Chinese IP industries engaging in technological production are no longer able to imitate foreign technologies and they have to build up their own innovative power. The question is whether they will be able to do so. Studies show that China’s R&D expenditure as a percentage of its GDP has been on the rise.¹⁶⁸ The Chinese government plans to raise the percentage of R&D to 1.5% of GDP by the year 2005.¹⁶⁹ R&D funding for Chinese universities has greatly increased in recent years.¹⁷⁰ Young overseas Chinese scientists are returning to China.¹⁷¹ A growing number of high and new technology districts have attracted more than 10,000 overseas Chinese students to set up their own businesses.¹⁷² Lastly, numerous foundations have been set up to support innovation and the establishment of new businesses.

China’s movie industry has increased its competitiveness since the entry into the WTO by forming joint venture theatres with foreign counterparts and introducing digital technology.¹⁷³ The software industry is particularly vigilant in promoting its competitiveness in new innovations and technologies. For example, Kingsoft developed a highly competitive program called “WPS 2000” to challenge Microsoft’s Chinese-language Office

166. *Managers to Undergo WTO Training*, CHINA DAILY, May 29, 2002, available at <http://www.china.org.cn/english/33488.htm>.

167. See Leonard, *supra* note 164.

168. See CHINA SCIENCE & TECHNOLOGY DEVELOPMENT RESEARCH GROUP, *supra* note 97, at 777.

169. *The Adjustment of Chinese Economic Structure in the Process of Globalization*, ZHONGGUO JINGJI SHIBAO [CHINA ECONOMIC TIMES], Mar. 22, 2001, at 8 (Chinese text).

170. John R Allison & Lianlian Lin, *The Evolution of Chinese Attitudes Toward Property Rights in Invention and Discovery*, 20 U. PA. J. INT’L. ECON. L. 735, 779 (1999).

171. David Swinbanks, *Competition Entering Chinese Research*, 39 RES. TECH. MGMT. 5, 5-6 (1996).

172. *Green Light for High Tech*, PEOPLE’S CONSULTATION ASS’N NEWS, May 9, 2001 (Chinese text).

173. *Movie Market Rebounds After WTO Entry*, XINHUA NEWS AGENCY, Aug. 26, 2002, available at <http://www.china.org.cn/english/40386.htm>.

2000.¹⁷⁴ In August 2002, the open source operating system called Yangfan (or “raise the sail”) Linux was released by a government-sponsored software development group in China, which is expected to replace Windows and Unix on all Chinese government PCs and servers.¹⁷⁵ Vice-Minister of the Information Industry Lou Qinjian estimated that the sales volume of the Chinese software industry is expected to reach RMB250 billion (US\$30 billion) by the year 2005, with 60% of the national market share held by domestic software and services.¹⁷⁶

Although imitation has become more difficult after the WTO entry, domestic enterprises could still imitate foreign inventions in a legitimate manner; for example, by imitating after the patent expires, or by reverse engineering. Domestic enterprises can also try to increase their competitiveness through technology transfer. The imported technologies plus the knowledge of the Chinese market will give domestic enterprises a comparative advantage over foreign companies.¹⁷⁷

The key to enhancing competitiveness is to have sufficient numbers of talented people working in the IP industries. To solve the problem of brain drain and win the “battle for human resources” (*ren cai zhan*), the newly elected General Secretary of the Chinese Communist Party Hu Jintao recently called for establishing a National Security System for Administration of Important Talents to include human resource security in the scope of national security.¹⁷⁸ China’s Ministry of Personnel is also planning to draft related laws and regulations aimed at encouraging skilled and professional people to work for Chinese companies and thus try to avoid the loss of these workers to foreign competitors.¹⁷⁹

174. *Local Software Competes with Microsoft for Government Contracts*, CHINA BUS. FOCUS, June 30, 2002, available at <http://www.chinabiz.org/articles/show.asp?id=1616>.

175. Matt Berger, *LinuxWorld Expo: Chinese Government Raises Linux Sail*, INFO WORLD NEWS, Aug. 13, 2002, at <http://www.infoworld.com/articles/hn/xml/02/08/13/020813hnchina.xml> (last visited Feb. 5, 2003).

176. *Chinese Software Industry to Surpass Other Industries*, CHINA ECON., Nov. 12, 2002, at <http://ce.cei.gov.cn>.

177. See *Strengthening the Administration of IPRs and Promoting the Quality of Importation of Technologies*, CHINA INTELL. PROP. NEWS, Feb. 16, 2001, at 3 (Chinese text).

178. *Hu Jintao Instructed to Prevent Talented People from Losing*, available at <http://www.phoenixtv.com/home/news/Inland/200212/09/6937.html>

179. *Id.*

VIII. WTO AND CHINA: FUTURE INTERACTION ON IPRS PROTECTION

Former WTO Director General Mike Moore stated that China's entry has been one of the economic landmarks of the 21st century, while the European Union Trade Chief Pascal Lamy have said that it is "the greatest leap forward in the history of the WTO."¹⁸⁰ As the world's fifth largest economy,¹⁸¹ China's entry into the WTO presents an opportunity for both developed and developing countries to enter a vast market consisting of 1.3 billion consumers.¹⁸² In the meantime, China's entry has also brought challenges to other countries.¹⁸³ In Abbott's words, China's entry into the WTO "is an opportunity and a challenge for China, for the United States and other industrialized states, and for the WTO."¹⁸⁴ Since trade in IPRs is vital to China's national economy and China has become a major player in the international IP scene, challenges brought by China's WTO entry are expected to be fiercer in IP areas in the foreseeable future.

A. HOW WILL THE WTO AFFECT CHINA'S IP INDUSTRIES?

In this section, I will assess how the WTO and China will be mutually affected in the area of IPRs protection, what role China will play in the WTO in shaping TRIPS and relevant IP policies, and how Chinese IP industries will be influenced by this mutual interaction.

WTO membership will profoundly influence the Chinese IP industries by forcing them to formally adhere to TRIPS' standards. China's participation in policymaking and the enforcement of IPRs will change the IP industries' ways of thinking and behavior. Membership will also allow other member nations to

180. See Mark O'neill, *China Signs WTO Agreement*, S. CHINA MORNING POST, Nov. 12, 2001, available at <http://www.scmp.com>

181. Reuters, *China's WTO Clearance Raises Fears*, S. CHINA MORNING POST, Sept. 17, 2001, available at <http://www.scmp.com>.

182. Charlene Barshefsky, the former US trade representative, said the WTO accord "will open the world's largest nation to our goods, farm products and services in a way we have not seen in the modern era". See James Kynge, *Survey - China & the World Trade Organization: Liberalization Pace Reined in to Reduce Risks: China is Keen to Manage the Rate of Change During the Year of the Horse to Ensure the WTO Agenda Does Not Foment Social Unrest*, FIN. TIMES, March 18, 2002, available at <http://news.ft.com>.

183. As an envoy of an Asian country said, "Of course I am glad to see the world's biggest developing country coming in alongside us in the WTO. It will give us more strength in dealing with the big powers. But I worry for the future of our own exports who have been looking to a rapid expansion into Western markets over the next decade." *Id.*

184. Frederick Abbott, *Reflection Paper on China in the World Trading System: Defining the Principles of Engagement*, CHINA IN THE WORLD TRADING SYSTEM, DEFINING THE PRINCIPLES OF ENGAGEMENT, 1998, at 1.

place pressure on China to abide by the rules of the WTO.¹⁸⁵ The question is whether the Chinese IP industries have sufficient incentives to abide by TRIPS. According to Richard Posner, participants in legal processes are assumed to be “rational maximizers of their satisfaction,” and they react to laws and punishment as a consumer reacts to price.¹⁸⁶ Assuming that the people in Chinese IP industries are no less rational than their Western counterparts, they should be willing to adjust their thinking and behavior to comply with TRIPS once they are sure about the benefits of doing so. As discussed in section 1 of this article, although TRIPS is the product of developed nations’ efforts to unify the international IP protection, it also contains principles and provisions preferential to developing countries. This might be why the Chinese government has been very cooperative in elevating its legal standards to the level of TRIPS as shown in section 2 of this article. However, the legislation must be designed, in Posner’s words, “to react to the incentives it imparts and concerned about how to promote economic efficiency.”¹⁸⁷ The legislative revisions and problems troubling the IP industries suggest that the Chinese IP industries have enough incentives to implement the domestic IP laws as well as TRIPS since, as many of China’s top leaders have concluded, IPR has become an essential ingredient of an innovative society.¹⁸⁸ The activities aimed at pushing for stronger IP protection in the software industry demonstrate that there is also a movement towards private enforcement of law in Chinese society, at least in the area of international trade. As more industries and other commercial sectors reach the stage that the Chinese software industry has reached, there will likely be more demand for IPRs protection in China.

WTO membership will also have an enormous economic impact on China’s IP industries. For example, there will be more opportunities for the exchange of high and new technologies between China and other countries.¹⁸⁹ China can develop itself based on imported technologies and turn itself from a technology-importing country into an exporting country as Japan has done. In addition, accession into the WTO brings the pressure of

185. Stanley Lubman, *BIRD IN A CAGE, LEGAL REFORM IN CHINA AFTER MAO*, 315 (1999).

186. Richard A. Posner, *The Economic Approach to Law*, 53 *TEX. L. REV.* 575, 761 (1975).

187. *Id.* at 763-64.

188. Michel Oksenberg, Pitman B. Potter & William B. Abnett, *Advancing Intellectual Property Rights: Information Technologies and the Course of Economic Development in China*, 7 *ANALYSIS* 3, 5 (1996).

189. *The Strategies for International Protection of IPRs of High and New Technologies*, *CHINA INTELL. PROP. NEWS*, May 12, 2000, at 2 [hereinafter *Strategies*](Chinese text).

competition. Industries depending heavily on the imitation of foreign products (e.g., the pharmaceutical industry) may suffer from losing market share. But the competition can in turn stimulate the reform of these enterprises. The difficulty in obtaining new technologies through licensing may force local firms to innovate at a higher technological level. More innovations and technological development means more demand from industries for IPRs protection. For example, in recent years, there has been consistent increase in patent applications and trademark registrations in China, e.g., 91,809 domestic patent applications in the period of January 2002 to June 2002 (compared with 83,555 in the period of July 2001 to December 2001), and 229,775 domestic trademark applications in 2001 (compared with 181,717 in 2000).¹⁹⁰ According to the China's Minister of Foreign Trade Shi Guangsheng, the auto industry, which was originally expected to be vulnerable to WTO challenges, has in fact been faring well and has been able to expand its productivity scale and increase its profits.¹⁹¹

B. HOW WILL CHINA'S MEMBERSHIP INFLUENCE THE WTO ON IP POLICIES?

Meanwhile, China's entry will affect the WTO to an equal extent. From an institutional point of view, China's membership will allow China to have one vote on any policy decision and participate in rulemaking. As the largest developing country and IP consumer market, China "will have a very, very prominent leadership role once it comes in."¹⁹² Abbott believed that the role of China will be a positive one.¹⁹³ One positive impact of China's entry is that powers within the WTO might be more balanced between the industrialized nations and developing countries, which will be healthier for world economies in general and Chinese IP industries in particular. For example, in a new round of

190. See China Patents & Trademarks, Vols. 69, 70, & 71, Nos. 2, 3 & 4 (2002).

191. Shi Guangsheng *Reviews the First Year after China Joined the WTO: China has Realized Two 'Bests'*, CHINESENEWSNET.COM, Dec. 9, 2002, at <http://www.chinese.newsnet.com/cgi-bin/newsfetch.cgi?unidoc=big5&src=SinoNews/Main1> (last visited Feb. 5, 2003).

192. Jackson, *supra* note 62, at 79. Also see Abbott, *supra* note 184, at 31, "As a very large economy, China's influence is likely to be greater than that of most of the other developing Members. It might be expected that China will be less influenced by political pressures from the great economic powers of Europe, Japan and the United States than are many other developing countries. China is a substantial better position to pursue a path of self-sufficiency and inward looking economic development than are many other countries. China could conceivably lead developing Members toward a stalemate with industrialized Members on new agenda items."

193. *Id.* at 34. Jacobsen and Oksenberg also believed that "the dire predictions from some quarters that Chinese participation would be disruptive have not proven to be correct." *Id.*

WTO negotiation on agriculture, China put forward a plan, which was widely supported by other members, demanding that developed countries reduce export subsidies and lower high tariffs.¹⁹⁴

In the IP area, China has made efforts to play a positive role in regional and international IPRs cooperation. The Chinese Patent Office plans to establish the China Intellectual Property Training Center in Beijing, which is expected to become a Regional Center of the World-Wide WIPO Academy to train the personnel specialized in IP for Asia and the rest of the developing countries.¹⁹⁵ China also plans to set up a patent automation system with government loans from Germany to perform searches and examinations, process management and electronic applications, issue publications, and conduct electronic transmission with the World Intellectual Property Organization (WIPO) and other large patent offices such as the European Patent Office (EPO), the Japan Patent Office (JPO) and the US Patent and Trademark Office (USPTO).¹⁹⁶ In May 2002, China and the WIPO signed the IP Cooperation Protocol to deal with the problems in IP areas such as traditional knowledge, the world patent system, the protection of small and medium enterprises (SMEs), and the impact of the internet on IP protection.¹⁹⁷ In April 2003, China will join WIPO in hosting a WIPO Intellectual Property Summit to emphasize the importance of IPRs on the global agenda.¹⁹⁸

IX. CONCLUSION

On the eve of the one year anniversary of the WTO entry, China's Minister of Foreign Trade Shi Guangsheng rated China "the best player" during its rookie year, as China was not only able to fare well in honoring the commitments of the WTO, but was able to enjoy the rights of the WTO as well.¹⁹⁹ China has also received positive evaluations from the WTO on its overall

194. Leonard, *supra* note 164.

195. Gao Lulin, *China's Intellectual Property Protection System in Progress*, CHINA IN THE WORLD TRADING SYSTEM, DEFINING THE PRINCIPLES OF ENGAGEMENT, 1998, at 135.

196. *Id.*

197. *China Signs IP Cooperation Protocol with WIPO*, PEOPLE'S DAILY, May 22, 2002, available at http://english.peopledaily.com.cn/200205/22/eng20020522_96224.shtml.

198. *China to Hold WIPO Intellectual Property Summit*, PEOPLE'S DAILY, Sept. 25, 2002, available at http://english.peopledaily.com.cn/200209/25/eng20020925_103828.shtml.

199. *Strategies*, *supra* note 191.

performance²⁰⁰ and its commitment to IPRs protection in particular.²⁰¹ In about one year, over 2,300 laws were amended and 830 others were abolished to comply with the WTO rules.²⁰² In the IP area, implementing rules to copyright and trademark laws as well as several new rules on domain names have been enacted after the WTO entry. As stated in section 6 of this article, in preparing for WTO challenges, Chinese IP industries have made many positive moves, including strengthening IPRs protection, seeking more government assistance, and enhancing their own competitiveness.

Notwithstanding these positive evaluations and moves, doubts about China's full commitment to the WTO remain. The USTR "has continuing concerns about the consistency of some provisions of the copyright law and current regulations with international standards."²⁰³ Effective enforcement of IPRs, particularly for movies, music, software, books and journals, well-known marks, as well as pharmaceuticals, is another big concern for foreign countries and their companies.²⁰⁴ In addition, some WTO members have pointed out that certain Chinese laws and regulations still contain ambiguities and lack of clarity.²⁰⁵

These doubts and concerns reflect not only the problems in IP areas, but also a more fundamental distrust of the rule of law in China as the overall condition of the rule of law will affect the development of the IPRs system. For example, poor enforcement of IPRs is often associated with the ineffective judicial system and local protectionism which are deeply rooted in the problem of the lack of judicial independence in China. The widespread IPRs infringement also has its "masses base" (qunzhong jichu) in China where people genuinely or unconsciously enjoy producing and buying pirated products without feeling guilty. Therefore, "what China lacks most after WTO entry are not funds, technology and talented people, but the whole society's

200. Sun Zhenyu, the first Chinese Ambassador to the WTO, reported that WTO Director-General Supachai Panitchpakdi indicated that China's behavior in its performance of duties and observance of rules proves it is a qualified member. See *China's Behavior Proves It Qualified: Interview*, PEOPLE'S DAILY, Dec. 10, 2002, available at http://english.peopledaily.com.cn/200212/10/eng20021210_108209.shtml.

201. *WTO Gives Positive Evaluation of China's Achievements in IPRs*, XINHUA NEWS AGENCY, Sept. 19, 2002, available at <http://211.147.20.14/chinagate/focus/wto/news/i008/20020919ipr.html>.

202. Chi Lo, *China's Slow Pace of Change*, ASIAN WALL ST. J., Dec. 11, 2002, at A11.

203. Zoellick, *supra* note 134.

204. *Id.*

205. *China's Behavior Proves It Qualifies*, PEOPLE'S DAILY, Dec. 10, 2002, available at http://english.peopledaily.com.cn/200212/10/eng20021210_108209.shtml.

awareness of rules," as the former WTO Director-General M. Moore has rightly pointed out.²⁰⁶

On the other hand, there are some signs that the rule of law might be stronger in IP areas than in other areas in China, since IP related industries are more integrated into the international community and are therefore more sensitive to international rules and competition. "As business transactions become more complex and, in particular, as they become more internationally integrated, a transparent, impartially administered, legal framework might be crucial."²⁰⁷ The "top-down" and "bottom-up" efforts to build rule of law in China advocated by Lubman²⁰⁸ have been evidenced by the facts that Chinese bureaucracies in charge of IP matters have surrendered their final decision making power to the courts, and that the Chinese software industry has been pushing for greater protection and formed private associations to combat piracy.²⁰⁹ The strengthening of the rule of law in the IP area will in turn have a positive impact on the overall development of the rule of law in China. WTO, a wolf to the Chinese IP industries, may turn out to be a good dance partner in the long run. It will not only force the industries to follow the strict rules of the club, but also make them better models for the whole Chinese society in following rules and respecting other people's rights.

206. *Big Changes*, *supra* note 165.

207. ASIAN DEVELOPMENT BANK, *EMERGING ASIA: CHANGES AND CHALLENGES* 35 (1997).

208. Stanley Lubman, *Statement Submitted to the Congressional-Executive Commission on China*, Feb. 6, 2002 (on file with the author). "Wider legal reform, extending beyond trade-related matters, is also contemplated, but faces considerable difficulties. Efforts must be made from the top down, although official policy and many officials have less than a firm commitment to the rule of law; efforts are required from the bottom up, although Chinese civil society is weak and undeveloped."

209. For a more comprehensive study on IP protection for software industry, see Yahong Li, *Pushing for Greater Protection: the Trend of Chinese Software Industry and the Implications for the Rule of Law in China*, 24 U. PA. J. . INT'L. & ECON. L. 3, (2002).