

A STUDY ON THE PATENT APPLICATION STRATEGY FOR CHINA FROM THE VIEWPOINT OF THE PATENT APPLICATION PROCEDURE AND PATENT APPLICATION CONDITIONS IN CHINA

KAZUFUMI YAJI *

Abstract

This paper examines strategies for patent applications in China, focusing on the differences between Chinese patent law and Japanese patent law about the process of filling patent applications and the data on the number of patent applications to China in various technology fields. Strategies for patent applications in China for Japanese companies are proposed taking account of differences between Chinese patent law and Japanese patent law and the viewpoint of patent application data.

I. *Introduction*

The Chinese government has advanced an intellectual property policy in the last 10 years. In particular, the Chinese government revised its patent law in 2000 in preparation for joining the WTO and is planning to revise its patent law in 2009. The number of patent examiners has been increasing rapidly over several years to handle the increase in the number of patent applications filed to the Chinese Administration Department under the State Council. But strategies for making patent applications, such as making a patent portfolio and patent pool, have not been researched in detail from the viewpoint of the differences between Chinese patent law and Japanese patent law and the condition of patent applications in various technology fields.

This paper first examines the differences between Chinese patent law and Japanese patent law especially the process of filling patent applications. The conditions of filling patent applications in some technology fields identified by reference to world data are also examined by using the Chinese Patent Retrieval System through the Internet. Based on the research results, strategies for Japanese companies wishing to apply for patents in China are proposed.

II. *Chinese Patent Law*

Chinese patent law adopts the “First-file system.”¹ In this system, the standard of the

* Graduate School of International Cooperate Strategy (ICS), Hitotsubashi University, Hitotsubashi, Chiyoda-ku, Tokyo, 101-8439, Japan. E-mail: kyaji@ics.hit-u.ac.jp

examination for patentability is the day when the Patent Administration Department under the State Council accepts the patent application. In this chapter, the process from filing a patent application to the Patent Administration Department under the State Council to appeal & trial and representative requirements for patentability are explained. In addition, the differences between the Chinese process and the requirements for patentability are examined and patent application strategies are proposed.

1. Process from Filling the Patent Application to Appeal & Trial

1.1 Preliminary examination & publication

A “preliminary examination,” which corresponds to the formality check in JPO, is performed after acceptance by the China patent office. (Rule 44) Then, the application for a patent is published 18 months from the date of filing. (Article 34)

If someone exploits the invention of the application after the publication of the application for patent until the patent right is granted, the applicant can request the administrative authority for patent affairs to mediate the dispute over the appropriate fee to be paid after the grant of patent right. (Rule 79) This rule is very similar to the right to demand compensation under Japanese Patent Law Article 65. But the difference is that the administrative authority may be mediated in China. And the applicant may request publication before 18 months have expired. (Article 34)

1.2 Request for examination

The Chinese Patent System adopts a “request for examination system.” The applicant can request an examination as to substance within 3 years from the date of filing. (Article 35) And an applicant who filed to another country shall furnish the documents that are made by the patent office of another country for examination or the documents concerning prior art research² when they request for examination. If these documents are not furnished, the application shall be deemed to be withdrawn. (Article 36) In Japan, the applicant shall write the information, patent publication number etc, for the document in the specification of application when they file. So, Japanese applicants can use such information as documents to be furnished for requesting an examination in China. But in China, applicants can research prior art documents or wait for the result of another country’s examination until the request for examination from the date of filing, which is efficient for examination and the applicant’s work because documents furnished can serve as reference for patent examiners and applicants do not have to research prior art for applications that are not requested for examination.

1.3 Amendment

Applicants can amend the claim, the specifications and the drawing of the application within the content written when they file. (Article 38) They can do it when they request an examination and within 3 months from the date of receiving the notification that the Patent

¹ Article 9. Where two or more applicants file applications for patent for an identical invention-creation, the patent right shall be granted to the applicant whose application was filed first.

² “Prior art research” means that the applicant researches prior art documents for patent application.

Administration Department under the State Council has entered into the examination as to substance. (Rule 51) This is a voluntary amendment.

If they receive a notice of rejection from the Patent Administration Department, they can make amendments only in response to the points indicated in the notice of rejection.³ As compared with the Japanese amendment limit, the Chinese one is stricter.

1.4 Decision to grant a patent & registration of a patent right

If there is no reason for rejection, the Patent Administration Department under the State Council decides to grant the patent right and sends the notification to grant the patent right to the applicant. (Article 39) If the applicant completes the procedure for registering the patent right within two month from the date of the notification of the decision to grant the patent right, the Patent Administration Department under the State Council shall issue the certificate of patent, register the patent right and announce it publicly. (Rule 54) The Chinese system for the decision to grant a patent and the procedure for registration is almost the same as the Japanese one.

1.5 Appeal against the examiner's decision of refusal

The Patent Administration Department under the State Council set up the Patent Reexamination Board for appeals against the examiner's decision of refusal and trials for invalidation. If applicants object to the decision of refusal by the patent examiner, they can request that the Patent Reexamination Board reexamines the decision within 3 months from the date that they receive the decision of refusal. (Article 41) Applicants can amend the application when they request reexamination or they respond to the notification of reexamination by the Patent Reexamination Board. But there is the limit that they can amend it to avoid the reason for rejection or remove the defect that the Patent Reexamination Board identified. (Rule 60) After receiving the request from the applicant, the Patent Reexamination Board shall send it to the patent examiner who makes the decision of refusal and have the patent examiner reconsider it before the reexamination by the Board. This process is the same as the reconsideration by the examiner before appeal in Japan. (Rule 61) After the reconsideration by the patent examiner, it is sent to the Patent Reexamination Board and reexamined by the Board. If the Board decides that that the decision of refusal is not appropriate or that the amendment enables the application to avoid the decision of refusal, the Board revokes the decision of refusal and sends it back to the examination department and has the patent examiner continue to examine it. (Rule 62) There is a difference here between the Chinese system and the Japanese system. In Japan, the appeal examiner can evoke the decision of refusal and grant a patent to the application. But the biggest difference is the amendment limit on the content as compared with the Japanese one. The Chinese limit is a little broader than the Japanese one because applicants can amend the claim to extend or change it.

1.6 Trial for invalidation

Any entity or individual may request that the Patent Reexamination Board conducts a trial for invalidation if they consider the registered patent right invalid through announcement.⁴

³ Linda Liu, 30th, November, 2005, "The Practical Basis of Chinese Patents," P49, "Applicants may discuss the amendment with the patent examiner directly without submitting the notice of rejection by the patent examiner."

(Article 45) The patent right holder can amend only the claim of the patent right during the process of the trial for invalidation. They cannot enlarge the scope of the claim and the content of amendment cannot go beyond the claim and specifications. Furthermore, they cannot add any new technical features to the claim even if adding a new constitution written in the specifications or drawing of the application to the claim restricts the scope of the claim.⁵ (Rule 68) The collegial body discusses the trial for invalidation in the Patent Reexamination Board and makes the decision. If the patent right holder or the requester objects to the decision, they can file the objection to a people's court within 3 months from the date that they receive the notice of decision. This is a middle court for intellectual property. (Article 46) The period for filing it to a people's court is longer than the Japanese period (30 days). If they object to the court's decision, they can appeal it to a People's High Court.⁶ The system of suing against the appeal after the Board confirms its decision on the appeal to the decision of refusal is the same. During the court case, the patent right holder cannot correct the claim of patent right in the Chinese system. This is the biggest difference with the Japanese system. In Japan, the patent right holder can correct the claim of patent right during the trial. In China, the patent right holder has to contest the claim that the patent examiner grants the patent right in the people's court.

1.7 Divisional application

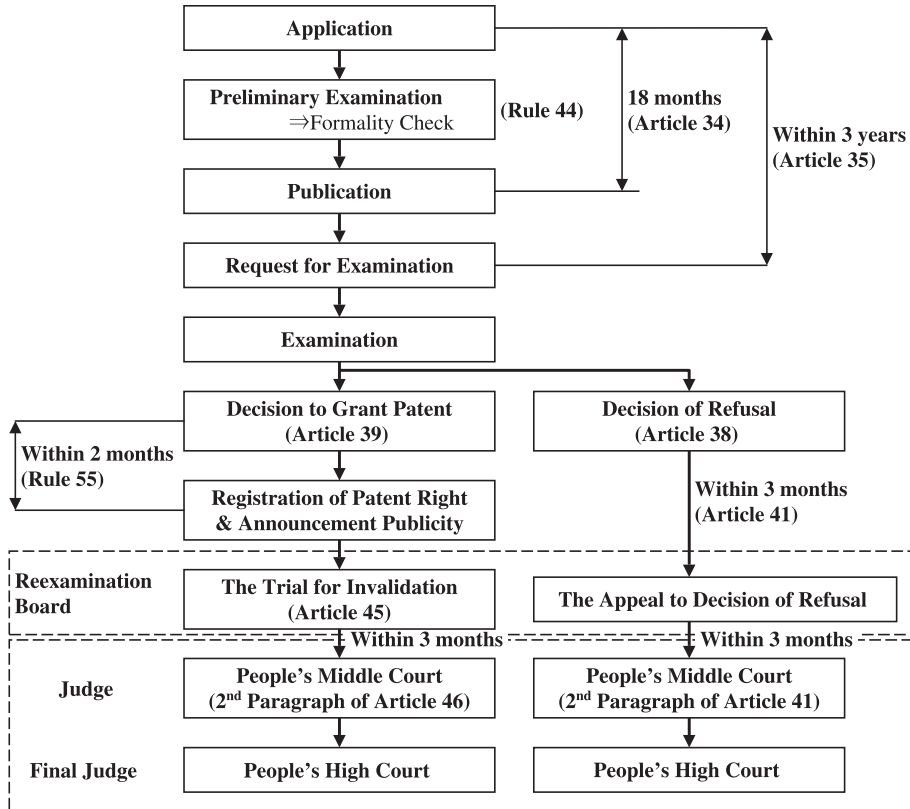
Applicants can file divisional applications. (Rule 42, 43) It is regulated only in implementing regulations of the patent law. So, the rule for divisional applications is easy to revise as compared with regulations in law. It can be revised according to the trends of the times. In China, a divisional application can be filed only in the scope of the original application from the filing date until the expiry of the applicant's patent right registration procedure, two months from the date that the applicant receives the notice of patent granted. (Rule 42) If the filing date of the divisional application is beyond three years from the filing date of the original application, the applicant must request an examination on the same date as the filing date of the divisional application. Of course, if the divisional application is accepted, patent examiners examine it as it is filed on the filing date of the original application. The Chinese system for the divisional application is similar to the Japanese one. The most important difference between them is the period in which applicants can file the divisional application. In Japan, applicants can file a divisional application in the period in which they can make an amendment and within 30 days from the date of the patent examiner's final decision. This is stricter than the Chinese period for filing a divisional application. So, in China it is easier to establish a patent pool and patent portfolio for a particular product than in Japan. This means that applicants can make a patent portfolio using the divisional application system in China if they make a patent portfolio using the divisional application system in Japan. Of course, the examination decisions of the Japanese patent examiner and the Chinese patent examiner might

⁴ There used to be opposition to the grant of a patent and the trial for invalidation. But these two systems were integrated to the trial for invalidation, which was enacted on July 1st 2001.

⁵ Liang Xiyun, 2004, "The difference of the appeal of invalidation and the suit against appeal between Japan and China" (in Japanese), Sankyo International Patent Attorneys Office

⁶ People's Middle Court: Article 23 of the Chinese Judiciary Act, People's High Court: Article 26 of the Chinese Judiciary Act. There is the People's Supreme Court, (Article 30 of the Chinese Judiciary Act) but the People's High Court is the final court for appealing decisions about patents in China.

FIG. 1. PROCESS OF FILING A PATENT APPLICATION TO THE COURT



differ.

As already mentioned, there is a divisional application system but there is no converted application system in China.

1.8 International priority & internal priority

Applicants can file an application already filed to another country to China with international priority under the Paris Convention within 12 months from the filing date of application for the first country. (Article 29) This is the same as in Japan.

Applicants can also file an invention that is written in the first patent or utility that is already filed to the Patent Administration Department under the State Council within 12 months from the filing date of the first application. (Article 29) In such a case, the patent examiner examines the claim with internal priority as filed at the filing date of the first application and examines the claim without internal priority at the filing date of normal application.

The Chinese internal priority application system is the same as the Japanese one.

2. Requirements for Patentability in Examination as to Substance

This section describes representative requirements in examination as to substance, invention, novelty, inventiveness.

2.1 Invention

The requirements as invention for patentability in examination as to substance are as follows (1), (2).

(1) The invention must be a new technical solution relating to a product, a process or improvement thereof. (Article 2) (Rule 2)

(2) The invention filed must not correspond to (i) scientific discoveries; (ii) rules and methods for mental activities; (iii) methods for the diagnosis or for the treatment of diseases; (iv) animal and plant varieties; (v) substances obtained by means of nuclear transformation. But a patent right may be granted to processes used in producing products referred to in items (iv). (Article 25)⁷ In China, anything coming under (iii) cannot be patented. In the guideline of patent examination, if methods for the diagnosis of diseases correspond to all the following requirements, (a) the object of diagnosis is a human body or animal body, (b) obtaining a diagnostic outcome or checking the health condition is a direct aim,⁸ (c) the invention includes all processes of diagnosis, they cannot be patented. The treatment of diseases means the process of blocking, easing or cutting away the cause of disease or the focus of disease in a human or animal body. The difference between the Japanese examination guideline of methods for the diagnosis or for the treatment of diseases and the Chinese ones is that the diagnosis and the treatment of disease only for the animal body except for human can be patentable in Japan.

2.2 Novelty

Any inventions for which a patent right may be granted must possess novelty. (Article 22) If any inventions are publicly disclosed in publications in China or other countries, or publicly used or made known to the public in China by any other means before the date of filing, they cannot be granted a patent right. (Rule 30) The biggest difference between the Japanese novelty concept and the Chinese one is that the standard area for “used or made known to the public” only includes China⁹ and the time standard is the date in China. Other examination guidelines for novelty are similar to the Japanese ones. In the 2006 revision, the concept of “substantial identity” is adopted.

2.3 Inventiveness

Any inventions for which a patent right may be granted must possess inventiveness. (3rd Paragraph of Article 22) Inventiveness means that the invention has prominent substantive features and represents notable progress as compared with existing technologies before the date

⁷ Article 25 rules the category of unpatentable invention in Chinese patent law. But (i)~(v) are regulated as not an invention and not an industrially applicable invention in Japanese patent law. And (vi) used to be regulated as unpatentable in Article 32 of Japanese Patent Law. But in 1994 it changed to patentable.

⁸ On 1st July 2006, the new guideline of patent examination was enforced. In the new guideline, checking the health condition was added to obtaining diagnostic outcome.

⁹ The area standard of “used or made known to the public” was revised from “only in Japanese” to “in Japan or foreign countries” in 1999. So, the Japanese novelty concept used to be the same as Chinese one.

of filing. These two requirements correspond to the Inventive Step in Japanese patent law. Although the examination guideline of inventiveness is similar to the Japanese examination guideline of inventive step, there are some differences in detail, which require further study.

3. Research of the Difference between the Chinese Patent Application Process, Requirement for Patentable and Japanese Ones, and Proposal for Patent Application Strategies

3.1 Process of patent application

From the viewpoint of process, filing the application normally, the decision to grant patent, the registration of patent right, the appeal and the trial are similar to the Japanese ones. But from the viewpoint of request for examination, they can furnish the documents that the Japanese patent examiners indicate through their examinations. If Japanese applicants file the application to JPO as the first application and file it to China with international priority “Paris Treaty” or PCT within 12 months from the date of filing it to Japan, they are able to use the documents that the Japanese patent examiners indicate when they request for examination in China or the documents that they indicate in the specification of the Japanese patent application.

In addition, amendment in China is stricter than in Japan. So, it is better to use PCT for applicants who want to file to China because they can amend applications under the PCT process broader than an amendment in the Chinese process. Acknowledging the International Search Report or international preliminary examination after amendment makes the process of obtaining a patent right in China more efficient. Of course, they can furnish the documents indicated in the PCT process when they request an examination in China.

The Japanese time limit for divisional application in Japan is stricter than the Chinese one. So, if applicants file a divisional application in Japan and China, first they should file a divisional application in Japan because there are cases in which they can file divisional applications in China after confirming¹⁰ the result of a divisional application filed in Japan, which is an efficient process. Of course, they can furnish documents identified by a Japanese patent examiner when they request an examination of divisional application in China.

By using the process proposed above regarding the “Paris Treaty” or PCT and the divisional application system, applicants can obtain a patent portfolio and patent pool very efficiently in China and Japan.

3.2 Requirement for patentable

From the viewpoint of invention, the basic concept is almost the same as the Japanese one. But an animal or plant is permitted as an invention in Japanese patent law, which is to say that an animal or plant can be patentable.¹¹ In addition, substances obtained by means of nuclear transformation are patentable in Japan. But they are not patentable in China. And although methods for the diagnosis or treatment for human baby are not patentable in Japan and China,

¹⁰ Of course, within 3 years from the filing date of an original patent application, the Japanese Patent Office’s examination has to be performed.

¹¹ Japan Patent Office, “Examination Guideline for Patent and Utility Model,” Chapter VII Section 2, P15-P20

such diagnosis or treatment only for animal body except for human can be patentable in Japan but can not be patentable in China. From the viewpoint of patentable invention, the application strategy for filing to Japan and China is that in Japan the scope for patentable invention is different from that in China. So, applicants have to be careful in case the applicants have to rewrite the application claims to make the claims correspond to Chinese invention in law after filing to Japan.

From the viewpoint of novelty and inventiveness, the basic concepts in Japan and China are similar, but there are differences between Chinese inventiveness and the Japanese inventive step, which require further study.

III. *Condition of Patent Application in China and Patent Strategies for the Future*

This chapter examines the trends in patent applications. First, in order to research the trends in the number of patent applications in each technology field, the number of applications in each IPC section “A~H” from 1994 to 2005 is examined. Then, the number of applications in the main technology fields selected by reference to recent application conditions of world is examined. And finally, strategies for patent applications in specific technology fields in China are proposed based on those data.

1. Condition of Patent Application in China

1.1 Patent applications and utility model applications

Figure 2 shows the trends in the number of patent applications and utility model applications. As shown in Fig.2, the number of utility model applications exceeded the number

FIG. 2. TRENDS IN PATENT APPLICATIONS AND UTILITY MODE APPLICATION

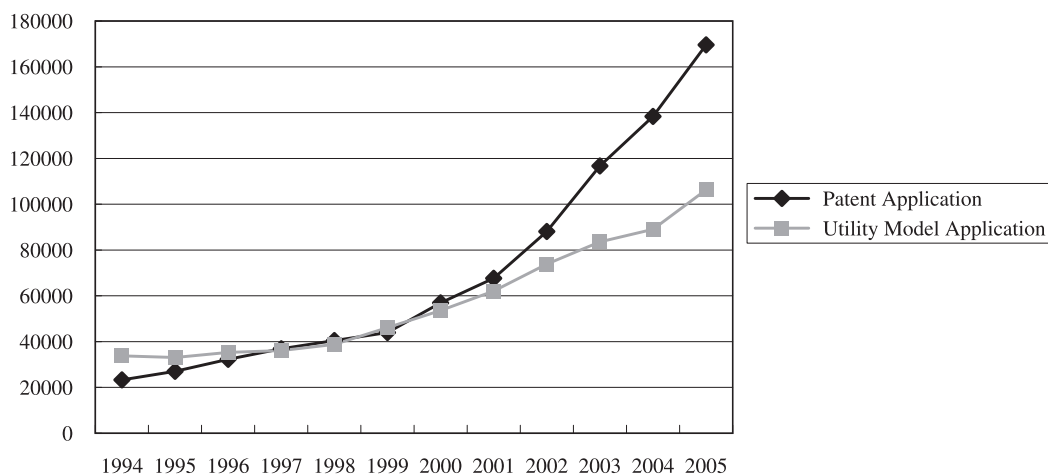
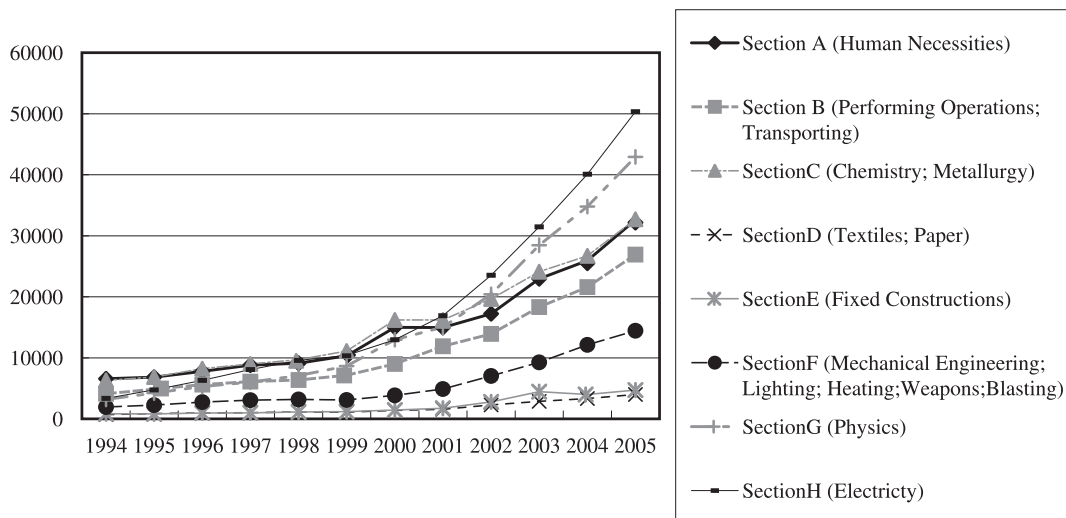


FIG. 3. TRENDS IN PATENT APPLICATIONS IN VARIOUS TECHNOLOGY FIELDS, "IPC Section"



of patent applications until 1999. In 2005, the number of patent applications was 1.5 times the number of utility model applications. This phenomenon reflects the rapid development in Chinese technology over the last several years. Another noteworthy point is that the numbers of both patent applications and utility model applications have increased rapidly. This means that more Chinese companies have become aware of protecting inventions and utility models. And in China, the utility model is being used for applicants in spite of the fact that its term is 10 years from the filing date. Because a substantive examination for a utility model application is performed by a patent examiner in China, the utility model right is more stable than the Japanese utility model right.

But from the viewpoint of obtaining an intellectual property right in China and putting it to practical use, a Japanese applicant should consider filling a patent application and obtaining a patent right for establishing a patent pool and licensing them to others in China as compared with a utility model right.

1.2 Trends in patent applications in various technology fields

This section examines the conditions of all IPC sections. Fig. 3 shows trends in the number of patent applications in all sections of IPC. The number of patent applications in "Section H (Electricity)" and "Section G (Physics)" increased more than in other sections. And the number of applications in "Section A (Human Necessities)," "Section B (Performing Operation, Transport)," "Section C (Chemistry, Metallurgy)" and "Section F (Mechanical Engineering, Lightning, Heating, Weapons, Blasting)" increased similarly. Therefore technologies in these sections have developed rapidly in China. The number of patent applications indirectly correlates to the GDP.¹² Approximately 56% of applications are domestic patent applications.¹³ So, Fig.3 indicates that there has been remarkable progress with all technology production volumes increasing in the Life Sciences, Physics and Electricity including IT.¹⁴

From Fig.3, we can predict the rise in the number of researchers in all technology fields and the R&D budget in China. The increase in the number of patent applications in each technology field also means that the number of consumers has increased. So, Japanese applicants should consider their application strategy especially in Section A, Section B, Section C, Section F, Section G and Section H.

1.3 Trends in patent applications in the main technology fields

Figure 3 shows that the number of patent applications in all technology fields has increased in China using the IPC section. We can see an overview of all trends in Chinese patent applications in Fig.3. This section analyzes trends in Chinese patent applications by technology scope, and identifies some main technology fields and the trends in patent applications in each field. Based on the statistics of “WIPO Patent Research 2007”¹⁵, some world patent applications for particular technology fields have increased remarkably between 2000 and 2004. These technology fields are “Computer technology,” “IT methods of management”¹⁶,” “Semiconductors,” “Optics”¹⁷,” “Medical technology,” “Biotechnology,” “Pharmaceuticals,” “Engines, pumps, turbines,” “Environmental Technology (Chemistry),” “Genetic Engineering” and “Telecommunications.” To compare all trends in patent applications in these fields, these graphs are divided into 3 kinds, Fig. 4, Fig. 5 and Fig. 6. The vertical scales of all graphs are the same, and the maximum is 18,000.

These three graphs show that the numbers of applications in all 11 technology areas have been increasing rapidly over these 10 years. Of those, “Pharmaceuticals,” “Telecommunications,” “Computer Technology” have grown particularly rapidly and the numbers of patent applications in these technology areas are very high. We can see that these technologies are developing rapidly now and many companies are interested in obtaining patent rights in China.

The number of patent applications in “Semiconductors” and “Optics” increased very similarly and the number of patent application in 2005 is high. The increases show that the development of these technologies is noteworthy. Of course, from the viewpoint of technology, “Semiconductors” and “Optics” are not particularly similar technologies. So, they do not have a direct correlative relationship with each other.

The number of patent applications in “Environmental Technology (Chemistry),” “IT Method of Management,” “Medical Technology” and “Engines, Pumps, Turbines” increased similarly. But the number of patent applications in 2005 is not so many in those technology areas.

The number of patent applications in “Genetic Engineering” and “IT Method of

¹² Hiroshi Kato, Futoshi Yasuda, 2007, “Impact of Intellectual Property on Economic Growth,” WIPO-UNU joint research project, http://www.wipo.int/export/sites/www/about-ip/en/studies/pdf/wipo_unu_07_general.pdf

¹³ Innovation and IP Research Group, Japan Patent Office, 2008, May “New Intellectual Property Policy of Pro-innovation ~Intellectual Property System as Global Infrastructure~,” P24

¹⁴ Linda Y. Yueh, July 2006, “Patent Laws and Innovation in China,” Department of Economics Discussion Paper Series, Department of Economics Discussion Paper Series, University of Oxford

¹⁵ WIPO “WIPO PATENT REPORT – statistics on worldwide patent activities,” 2007 Edition, http://www.wipo.int/ipstats/en/statistics/patents/patent_report_2007.html

¹⁶ In Japan, “IT methods for management” corresponds to “Computer Software Related Inventions.”

¹⁷ Optics = Photography; Cinematography; Analogous Techniques, Devices Using Stimulated Emissions

FIG. 4. TRENDS IN PATENT APPLICATIONS IN ENVIRONMENTAL TECHNOLOGY, BIOTECHNOLOGY, GENETIC ENGINEERING, PHARMACEUTICALS

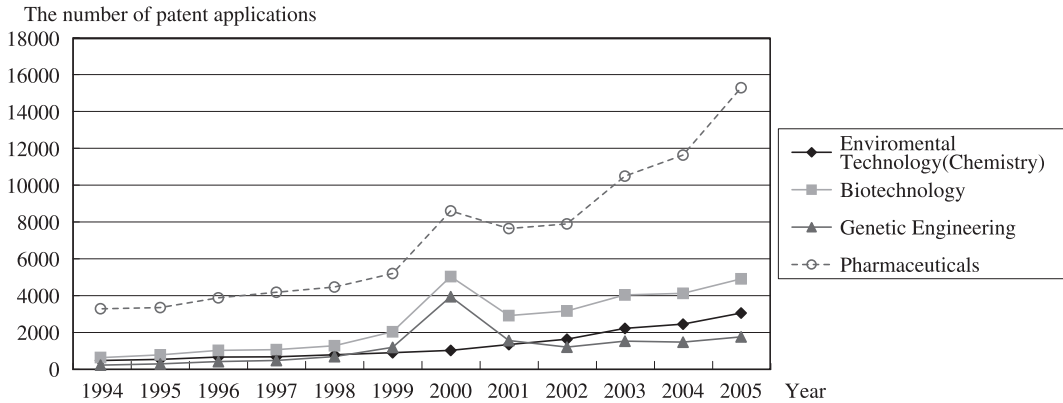


FIG. 5. TRENDS IN PATENT APPLICATIONS IN IT METHOD OF MANAGEMENT, SEMICONDUCTORS, TELECOMMUNICATIONS, COMPUTER TECHNOLOGY

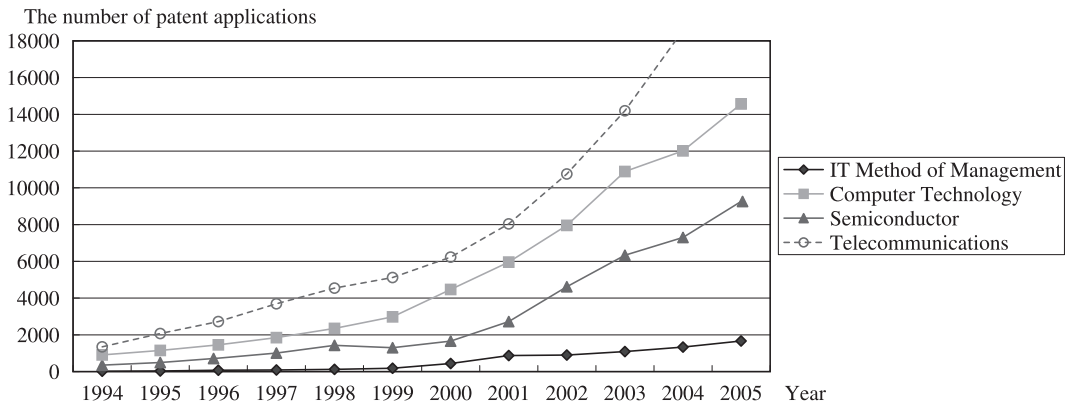


FIG. 6. TRENDS IN PATENT APPLICATIONS IN MEDICAL TECHNOLOGY, ENGINES ETC, OPTICS

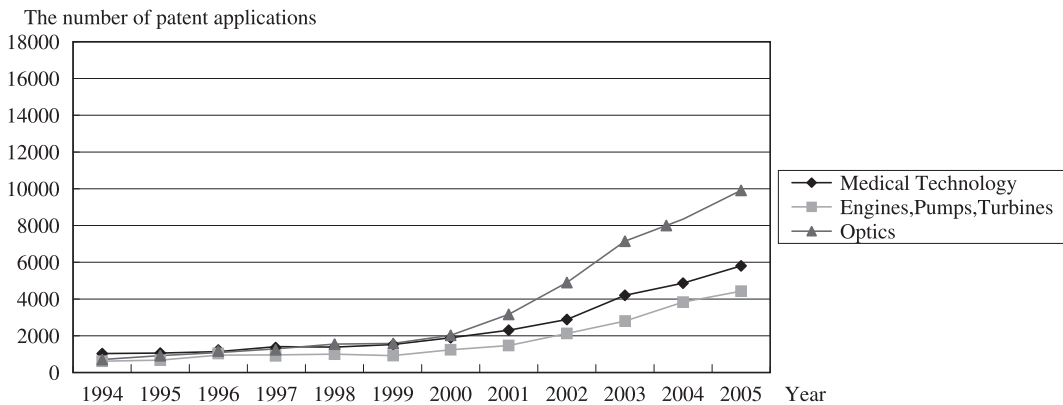


TABLE 1. COMPARISON BETWEEN CHINESE PATENT APPLICATION GROWTH RATE AND WORLD DATA

	The growth rate between '00 and '04 in China * ¹ (%)	The growth rate between '00 and '04 in the world (%)
Environmental Technology (Chemistry)	196.1	-5.8
Biotechnology	* ² 68.2	-1.3
Genetic Engineering	* ² 12.6	No Data
Pharmaceuticals	* ² 100.0	16.9
IT Method of Management	203.6	No Data
Medical Technology	156.9	32.2
Computer Technology	168.6	27.7
Semiconductor	339.5	22.5
Engines, Pumps, Turbines	209.9	19.2
Optics	120.0	24.2
Telecommunications	312.0	12.4

* 1 Ex : The growth rate between 2000 and 2004 = (The number of patent application in 2004 - The number of patent application in 2000) / The number of patent application in 2000

* 2 "Biotechnology", "Gene Engineering", "Pharmaceuticals" are calculated using data of "'01-'04".

Because the data of three technology fields in 2000 is extremely high and not a representative number.

Management" increased similarly. But the number of patent applications in 2005 is low.

From Fig. 4, the increase in the number of patent applications in "Pharmaceuticals," "Biotechnology," "Genetic Engineering" rose remarkably in 2000. The increase curves of 2000 are very similarly, and they are very similar technologies. The State Drug Administration (SDA) was established in 1998¹⁸, and the SDA's new policy likely affected the number of patent applications in these technology areas in 2000.

The inclines of all curves in the three graphs became steeper in 2000. In 2000, the Revised Patent Law was enacted, which may accelerate the number of applicant's filing.

1.4 Comparison between Chinese patent growth and world patent growth from 2000 to 2004 in the main technology fields

Table 1 shows a comparison between Chinese patent growth from 2000 to 2004 and world patent growth from 2000 to 2004 in 11 technology fields. From Table 1, the growth rate of patent applications in all technology areas greatly exceeds the growth rate in the rest of the world. In particular, the growth rate of "Semiconductors," "Engines, pumps, Turbines" and "Telecommunications" is very high.

And as seen from Table 1, the growth rate of filling patent applications in all 11 technology areas has been very active in the last 10 years as compared with world data. This phenomenon suggests that the number of patent applications in the 11 technology areas is improving and will increase in the future. In particular, despite the growth rates of "Environmental Technology (Chemistry)" and "Biotechnology" in world data being very low, the Chinese growth rates of those technology fields is very high. This phenomenon suggests that the number of patent applications in Chinese "Environmental Technology (Chemistry)" and

¹⁸ In 2003, the State Food and Drug Administration (SFDA) was founded on the basis of the SDA.

TABLE 2. COMPARISON BETWEEN THE INCLINE OF '94-'99 AND THE INCLINE OF '00-'05

	Incline of '94-'99	Incline of '00-'05
Environmental Technology (Chemistry)	81.3	401.6
Biotechnology	243.1	*493.7
Genetic Engineering	173.6	*66.5
Pharmaceuticals	378.3	*1902.3
IT Method of Management	30.7	220.1
Medical Technology	106.0	815.4
Computer Technology	410.5	2044.5
Semiconductors	222.8	2044.5
Engines, Pumps, Turbines	72.1	1527
Optics	185.3	1634.5
Telecommunications	777.7	3463.5

* The inclines of '00-'05 in "Biotechnology", "Gene Engineering", "Pharmaceuticals" are calculated using data of "01-'05".

Because the data of three technology fields in 2000 is extremely high and not a representative number.

"Biotechnology" will increase in the future. In particular, "Biotechnology" is developing all over the world, and the Chinese government emphasized that they will make Biotechnology the main prop of the high technology field in a convention¹⁹ held by the State Council of the People's Republic of China. So, the quality of "Biotechnology" will improve and the number of patent applications in "Biotechnology" will increase in the future. From the viewpoint of "Environment Technology (Chemistry)," China approved ratification of the Kyoto Protocol, but does not have an obligation to decrease air pollution. But in the future, China will likely have to take measures for environmental problems including air pollution in line with the rules of the Kyoto Protocol. As the number of inventions for environmental concerns is expected to increase, Japanese applicants should consider filing applications to China for future technology in those markets. Of course, Japanese applicants should also consider their patent application strategies in other technology fields.

2. Patent Strategy for the Futuer

2.1 Strategy of patent application in the technology fields identified

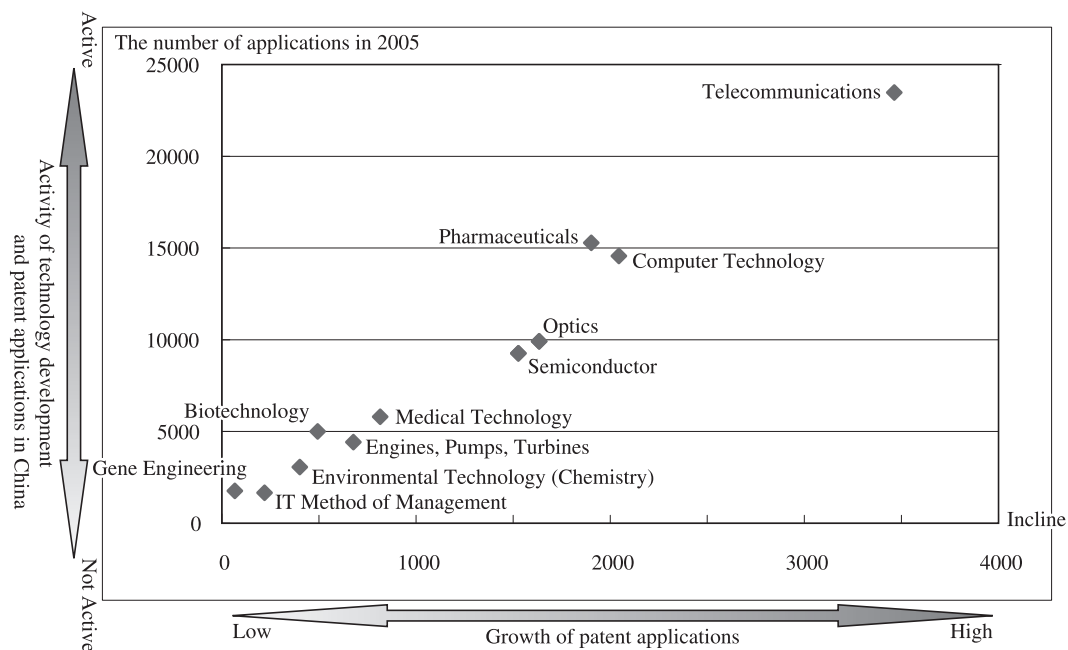
In Section 1.4, we can see Chinese growth as compared with world data. And in Section 1.3, the outline of the patent application conditions in all 11 technology areas is shown in three graphs. In this section, patent growth is examined in more detail in 11 technology areas.

As mentioned in Section 1.3, from Fig.4, Fig.5 and Fig.6, we can see that inclines of all curves in the three graphs became steeper in 2000. Table 2 shows the growth in the number of patent applications in all 11 technology fields considering all years data from '94 to '00. There are two inclines: the incline of "'94-'99" and the incline of "'00-'05." Both inclines are calculated using the least-square method.

As shown by Table 2, almost all patent application inclines become steeper in 2000.

¹⁹ The State Council of People's Republic of China held a convention to discuss the problem of "High Technology" and "Biotechnology" on 28th February 2007. It was one project of the 11th 5 year-plan (2006~2011).

FIG. 7. GROWTH AND ACTIVITY OF PATENT APPLICATIONS AND TECHNOLOGY DEVELOPMENT IN 11 TECHNOLOGIES



Chinese patent law was revised in 2000 and enacted in 2001. This phenomenon suggests that the revised patent law is having a significant effect on applicant's activity.

Using these inclines data of '00-'05 and the number of applications in 2005, the new graph Fig.7 is used for the proposed application strategy. The horizontal axis of Fig.7 is the inclines of '00-'05 that are shown in Table 2. From this number, we can estimate the growth in the number of patent applications over the next several years. The vertical axis of Fig.7 is the number of patent applications. From this number, we can estimate the level of activity of the conditions related to technology development and patent applications.

Fig. 7 shows both the degree of patent application growth and the active degree of technology development and patent filling in 11 technology areas. From the position of 11 technology areas in Fig.7, we can estimate Chinese company's technology development and especially the degree of Chinese company's patent strategy activity.

Fig.7 indicates that Chinese companies are developing technology and considering patent rights strategies, such as patent portfolio and patent pool etc in "Telecommunications" technology. And there is also a similar likelihood in "Pharmaceuticals," "Computer Technology," "Optics" and "Semiconductors." So, Japanese companies should consider their patent strategies, such as patent portfolios and patent pools etc, of "Telecommunications," "Pharmaceuticals," "Computer Technology," "Optics" and "Semiconductors" as soon as possible in China to avoid Chinese companies achieving a monopoly.

"Medical Technology," "Engines, Pumps, Turbines," "Biotechnology" and "Environmental technology" are in a similar area in Fig.7. This suggests that Chinese companies have not

developed patent strategies, but that they will file more patent applications and consider patent strategies in these technology areas in future. There were not many patent applications in 2005 in these technology areas. So, Japanese companies should consider future patent pools and future patent portfolios as soon as possible to be able to set the future pace of the strategies for patents in these technologies in China.

Fig.7 shows that the numbers of patent applications and the growth of patent applications are low in “Genetic Engineering” and “IT Method of Management.” So, not many Chinese companies are interested in these technologies. But these technologies will grow in the future. Therefore, Japanese companies should watch the trends in patent applications by Chinese companies carefully and file patent applications for future exclusive patent portfolios.

IV. Conclusion

Japanese companies should consider their application strategies especially in Section A, Section B, Section C, Section F, Section G and Section H.

Taking into account the high growth rate in world data and particular technology fields, Japanese companies should consider their patent strategy, patent portfolios and patent pools etc, in 11 technology fields including: “Telecommunications,” “Pharmaceuticals,” “Computer Technology,” “Optics” and “Semiconductors” as soon as possible in China to avoid other country’s companies establishing monopolies in these areas. In the fields of “Medical Technology,” “Engines, Pumps, Turbines,” “Biotechnology” and “Environmental technology,” Japanese companies should consider future patent pools and future patent portfolios and file patent applications as soon as possible to be able to set the future pace of the patent strategies for these technologies in China. In “Genetic Engineering” and “IT Method of Management,” Japanese companies should watch the trends in patent applications by other country’s companies carefully and file patent applications for future exclusive patent portfolios.

In the above-mentioned technological fields, Japanese companies should file patent applications and plan their patent application strategies such as making patent portfolios, patent pools etc, as follows.

From the viewpoint of filling a patent application, if Japanese companies file an application to Japan and China, it is better to use PCT where possible because they can amend them in the PCT process before using the strict amendment system in China. Moreover, Japanese companies can furnish documents identified by the Japanese patent examiner or documents identified by the applicant in specifications or documents identified in the PCT process when they request an examination of a divisional application in China, which is a very efficient process. To make a patent portfolio or patent pool, Japanese companies have to use the divisional application system. If Japanese companies wish to file a divisional application in Japan and China, first it is better to file a divisional application in Japan. This is because there are cases in which they can file divisional applications in China after confirming²⁰ the result of the divisional application filed in Japan, which is a very efficient process.

²⁰ Of course, within 3 years from the filing data of the original patent application, the Japanese Patent Office’s examination has to be conducted.

REFERENCES

- Allan Cox and Kristina Sepetys, March 2006, "Intellectual Property Rights Protection in China: Litigation, Economic Damages, and Case Strategies," "Corporate Counsel's Guide to Doing Business in China," Chapter 11.4
- By Wang Jinglin, July 2002, "Overcoming Formal Defects in Patent Applications before Filing in China," Journal of The Japanese Group of A.I.P.P.I. (in English)
- Fumio Sato, December 1994, "Explanation of the Chinese Patent System," Hatsume Kyokai (In Japanese)
- Ge Shu, January 2002, "A Comparative Study of the Patents Laws of Japan and China" Journal of The Japanese Group of A.I.P.P.I. (in English)
- Hiroshi Kato, Futoshi Yasuda, "Impact of Intellectual Property on Economic Growth - General Remarks -," WIPO-UNU joint research project
- Huaiwen He, "Impact of Intellectual Property on Economic Growth - China Remark -," WIPO-UNU joint research project
- Innovation and IP research group, Japan Patent Office, May 2008, "New Intellectual Property Policy of Pro-innovation ~Intellectual Property System as Global Infrastructure~"
- Institute for International Monetary Affairs, March 2003, "Emerging China and the Asian Economy in the Coming Decade," Symposium on International Economy Affair, 11th symposium Institute for International Monetary Affairs
- Japan Patent Office, "Examination Guideline for Patent and Utility Model"
- Li Maojia, Wei Qixue, Liu Xinyu, 2008, "Important Points in Revised Guideline of Patent Examination," Japan Patent Attorneys Association, Patent 2006, Vol. 59, No. 8 (In Japanese)
- Linda Liu, 30th, November, 2005, "The Practical Basement of Chinese Patent System," Hatsume Kyokai (In Japanese)
- Linda Y. Yueh, July 2006, "Patent Laws and Innovation in China," Department of Economics discussion paper series, University of Oxford
- Ryu Takabayashi, Tetsuya Imamura, 15th May, 2005, "The Condition and the Outline of the Retrieval System for Asian IP Court Precedents," Tokugikon P65-72 (In Japanese)
- Satoshi Nakajima, 2003, "The New Evolution of Intellectual Property Law System," "The New Evolution of Intellectual Property Protection in China," P237-277 (in Japanese)
- Setsuko Asami, "A View toward the Global Patent - Mutual Exploitation of Examination Results -," Journal of The Japanese Group of A.I.P.P.I. (in English)
- State Intellectual Property Office of The People's Republic of China, 2007, "2007/SIPO/ANNUAL REPORT"
- State Intellectual Property Office in China, "Examination Guideline for Patent and Utility Model
- WIPO, 2008, "World Patent Report: Statistical Review 2008"
- WIPO, 2007, "World Patent Report: Statistical Review 2007"
- Zheng Zha, Raj S. Dave, G. Brian Busey, Makoto Hattori, Yukio Nagasawa and Maho Nakamura, September 2005, "Enforcing Patents in China, Japan and the United States: A Comparison," Journal of The Japanese Group of A.I.P.P.I. (in English)