POSSIBILITIES FOR DEVELOPING INTERNATIONAL LICENSING BUSINESSES IN CHINA

– License-out Viewpoint for Market-oriented Know-how –

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Abstract

Along with its entry into the WTO (World Trade Organization), China has been requested to promote the greater application of international rules. The application of TRIPs (Agreement on Trade-Related Aspects of Intellectual Property Rights) in the area of licensing is making progress. This paper looks at the development of the international license businesses in China from the license-out viewpoint, highlighting some of the possible implications for Japanese corporations.

1. A unique characteristic of the licensing contracts between Japanese and Chinese, corporations as compared to those contracts between Japanese and the U.S. or European corporations, is that contracts including know-how are much more commonly used than standards patents. This is because Chinese corporations do not have the same capacity to absorb the technologies as those in the U.S. or Europe. This is also because a greater emphasis is placed in China on the elements for producing "things" such as core production technologies and technical and managerial guidance (management techniques).
2. However, there have been numerous cases in which Japanese corporations have been hurt or encountered problems due to unreasonable licensing regulations in China. There are of course externalities within technology, but revisions to the Chinese labor system have resulted in greater labor liquidity and tremendous technology spillovers. The Chinese policy has placed too great an emphasis on the spread of technologies, which is misleading as a policy model that does not offer adequate incentives for conducting the research and development needed to make these technologies possible in the first place.
3. These basic regulations have undergone sweeping changes brought about by the execution of the Technology Import Control Act (New Act) and regulations from the related departments (January, 2002). Generally speaking, this has helped to create a better environment for licenses. The license-out of Japanese corporations cannot be separated from "producing things". This is of course tied to direct investment, but consideration must also be given to securing local supply bases through OEM that aims to standardize the technologies on the market and bring the most suitable technologies to the market. For the firms strategically looking into the Chinese market (especially for sales of their products), it can be said that the improved legal system now provides better opportunities to effectively incorporate licensing into their market strategies.
4. Technical information and knowledge are fluid by nature. However, now that China has joined the WTO, the focus of risk management should be placed on deterring unintended technology spillovers, even if only slightly, through the protection of intellectual property rights. Specifically, some important basic steps should be securely taken such as staff education and document management in accordance with the company's own information protection framework.

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JBICI Review No. 8 November 2003 pp 1~34

Introduction

Why is the licensing business so important?

According to an actual survey of publicly traded companies in the U.S. (excluding financial institutions), only 20% of the overall enterprise value (market capitalization) was attributed to intangible assets in 1978. However, in 1988 this figure came to 55% and in 1998 it had risen to 70%. Careful consideration should be given to the fact that intangible assets now make a bigger contribution to enterprise value than tangible assets[1]. How to most effectively collect and use intangible assets has become an important business issue for corporations.

However, most of the patents held by Japanese companies are not being used. There are currently some one million patents in Japan, but less than one-third have actually been commercialized. Furthermore, half of the patents that are not being used are undisclosed patents (not licensed out to other companies)[2]. From the viewpoint of making effective use of these collected intangible assets, there is still room to consider license-out arrangements whereby companies (licensers) allow other companies (licensees)[3] to use their patent rights, and there is room to consider more aggressive exports of technologies on a global scale.

Why China?

Since its entry into the WTO, China has been working to apply more international rules to local business practices. In the area of licenses, progress is being made in complying with the TRIPs Agreement. Specifically there have been improvements and new regulations regarding intellectual properties are being enacted. One example is the enactment of the new Technology Import and Export Control Act. It has also been pointed out that Chinese companies themselves are becoming more international as they move into overseas markets. In other words, gradual improvements in the environment surrounding licenses can open up new business opportunities.

Why the licensing of know-how?

The licensing of technologies can be broken into two main groups: patent licenses and know-how licenses. China and other developing nations prefer technology transactions based mainly on know-how that is secret technical information not recognized as a right[4]. This style is much more common than transactions based on patents that represent monopolistic or exclusive rights. This is because the technology transfers are seen as the main objective. There is also the problem of having an inventory of unused and pending patents. In China some Japanese companies have had the problem of there being little to no progress in examining their requests for patent recognition. There have even been cases in which patents could not be obtained even eight years after the application was submitted[5].

Even when there is unauthorized copying by third parties, this copying cannot be prohibited while a patent request is still pending. Requests for compensation can be made, but not until after the patent rights have been established and registered (Article 13 of the Chinese Patent Law)[6]. In the

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1 Katsuhiro Ito "BSC for Making a Power Brand", (Chuo Keizaisha, Quarterly Accounting Information, No. 981 April 10, 2002) pp. 19

2 Shunsuke Watanabe "Roles of Accounting and Financial Departments in Intellectual Intangible Asset Strategies", (Chuo Keizaisha, Quarterly Accounting Information No. 981 April 10, 2002) pp. 10

3 Strictly speaking, this refers to granting rights to use the patent or the know-how. However, the legal terminology differs for the cases of a patent or know-how.

4 Legally, theoretically and in terms of precedent, know-how is not recognized as intellectual property or as an object protected by rights.

5 "Nikkei Sangyo Newspaper" April 11, 2002, page 7. The slow pace for conducting examinations is common among most developing nations, and not just China. It has been said that progress in making the examinations were made for only 10% to 20% of the requests submitted by Japanese Company A. ("How to Protect Intellectual Property", Japan Overseas Enterprises Association "Global Management" November 2001, pp.15)

6 The system for the right to request compensation was established to protect the profits of inventors from those making imitations based on the details made public in the patent request during the period from which the patent application is made public until the patent rights are established.

electronics and other fields where technical innovations move at a very fast pace[7], this patent system that requires disclosure and long processing times does not offer any protection. Rather, it could have the adverse effect of motivating companies to keep their technologies concealed.

Furthermore, China does not do enough to protect know-how. There are various problems surrounding know-how licensing such as the fact that negotiations for assigning value to the provided know-how is much more difficult compared to the contractual negotiations when a patent is in place. From the viewpoint of management, it is very important to be able to present some type of risk management for this know-how licensing that has many potential risks.

Against this backdrop, this paper will examine the development of international licensing businesses in China, while indicating some of the implications for Japanese businesses.

Chapter 1
Technology Exports and Know-how Licensing

1. Technology Exports and Licenses

The term "technology trade" refers to the entering into of contracts between two countries regarding commercialized technologies with payments in accordance with the value of the technologies being made and received. Specifically this refers to the providing of consent to use industrial properties (patents, utility model rights, design rights, trademark rights) or items and know-how provided / introduced through the lending / receiving of these rights (Akiyama, 1991, pp4)[8]. The values for these rights are recorded as balance of payments or services accounts.

Technology exports can bring about much more than just licensing revenue. They can also help to invite and improve the trade of parts, materials and products. They can also help to avoid trade friction by replacing some of the protectionist obstacles to importing merchandise. However, there are also some disadvantageous. The country importing the technologies may improve on and further develop the technologies and then use them to achieve the domestic production of products. This means that the exportation of technologies may help to foster new competitors, which could result in the danger of the country that imported the technologies eventually cutting off the flow of products from the country that exported the technologies. There is also the possibility of the reverse export "boomerang" effect[9]. [10]

Clearly there are some demerits to technology exports, but Akiyama (1991, pp.11-13) indicated the following four incentives for licensers (approver of usage rights) exporting technologies[11].

(1) Aiming only for licensing revenues. This is considered in such cases as when a company wants to quickly recover some of its huge R&D expenses or it wants to reuse in developing countries the technologies that have lost some of their predominance.

(2) Combine technology exports with direct investment to capture and expand on a dominant position in a foreign market.

(3) Compliment exported products that bring together many technologies, while at the same time fostering the export of parts and materials.

(4) Cross-licenses[12] for the purpose of raising the level of technology.

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7 Watanabe, Miyazaki, Katsumoto (1998, pp.287)

8 The Ministry of Education, Culture, Sports, Science and Technology "Annual Report on Promoting Scientific Technologies" defines "technology trade" as "the international trade of rights and usage permission for patents, practical new ideas and technical know-how resulting from R&D activities related to science and technology."

9 The "boomerang" effect refers to the cases in which there are technology exports and foreign capital investments that help to raise production capacity of the recipient country to the point that products from the recipient country then flow into the country that originally provided the technology export and capital, in direct competition with their own industries.

10 Akiyama (1991, pp6-8)

11 Akiyama (1991, pp11-13) referred to (1) as "product trade alternative-type", (2) as "direct investment-type", (3) as "product trade compliment-type" and (4) as "product trade neutral-type".

12 This refers to the mutual licensing of each of the patents and other rights owned by multiple right holders.

Contracts for the trading of technologies can be classified into six main groups. Licensing contracts allowing for the use of patents, know-how and other commercialized technologies are examples of "technology lending-type" contracts (see Table 1).

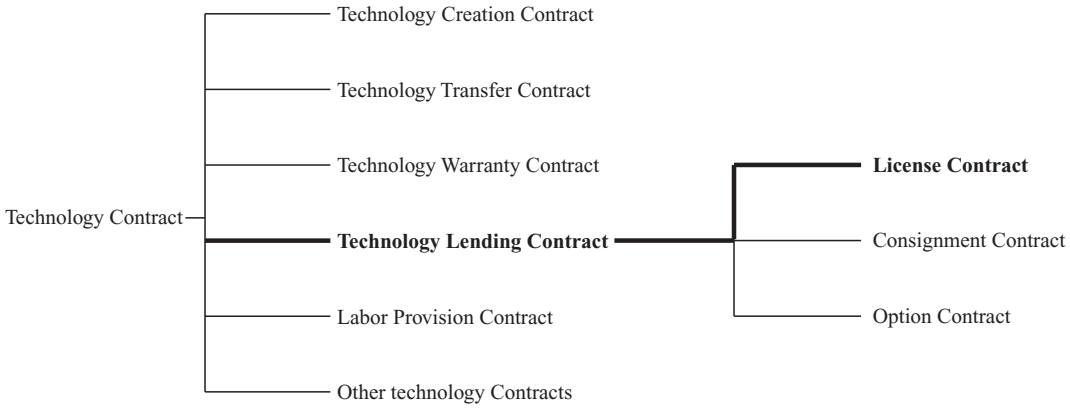
With a license contract the technologies and intellectual properties are still held by the licenser (company), but use right are provided to the licensee (another company) for the period of the contract. Once the contract period has expired, the licensee forfeits rights to use the technologies and intellectual properties. There are various types of rights such as exclusive rights, non-exclusive rights and sub-licenses (Oonuki, 2001, pp. 12) [13].

With exclusive use rights the licenser is obligated to not provide the use rights to a third party other than the licensee in the license region[14].

With the non-exclusive rights, the use rights can be extended to numerous parties within the license region, and the licenser itself is allowed to exercise these rights. With the sub-license, the licensee has the right to license the use right it received from the licenser to a third party. From the viewpoint of anti-monopoly laws, it is more desirable to have sub-licenses than exclusive use rights [15].

A comparison of license agreements between Japan and the U.S. can serve as a good reference (see Table 2). With exclusive use right under Japanese law, the rights go into effect once they are established and registered. Even with the normal use rights, opposition to having the rights passed on to a third party must be included in the registration. There are some differences with the exclusive rights in the U.S., such as there is no right to provide sub-licenses[16].

Table 1 Classification of Technology Contracts and Positioning of License Contracts



Note: With a consignment contract the licensee becomes the recipient of the subcontract in accordance with the received rights, and a third party is entrusted with carrying out the manufacturing. An option contract gives the licensee the right to choose whether or not they want to enter into the main contract.

Source: Japan Institute of Invention and Innovation (2000) "License Contract Handbook" pp.3

13 According to Japanese law, consent rights consist of exclusive rights and normal rights. With the exclusive rights only the owner of the right can entrust the use of the right to others and no effect is possible unless the right is registered (not a right created through a contract, but a notional right created through a registration). With the normal right, not only the owner of the right, but also the owner of the exclusive right can entrust the use of the right to others. The effect is generated by concluding a contract and settings and registrations are nothing more than conditions for blocking third parties. There are basically two normal rights: (1) exclusive normal rights in which there is a contract forbidding the transfer of rights to third parties, and (2) non-exclusive normal rights without any such contractual restrictions. (Yamada, 2002, pp35-39)

14 With exclusive use right it is generally assumed that the patent holder (licenser) itself will not execute the rights. However, in the U.S. "sole rights", in which the self-execution rights are maintained, have become common. (Yamada, 2002, pp39)

15 This is because when no sub-licenses are granted, it is easier for the licenser and licensee to monopolize or divide up a market. (Yamada, 2002, pp41-42)

16 However, there are no compulsory characteristics and so sub-licensing can be recognized by both the exclusive and normal rights through special contracts. (Murakami, 2000, pp132)

Table 2 Comparison of License Systems in U.S. and Japan (use rights)

	Japan		U.S.	
	Normal Rights	Exclusive Rights	Nonexclusive	Exclusive
Method	Verbal agreement is OK	Registration needed to take effect	Verbal agreement is OK	Verbal agreement is OK
Transferability	None	None	None	None
Sub-licensing	Not possible	Not possible	Not possible	Possible
Patent infringement charges can be filed	No	Yes	No	Yes (with the patent holder)
Patent infringement charges can be filed	No	No	–	–
Invalid recognition charges can be filed	–	–	No	Yes (specific cases such as counter suits)

Source: An excerpt from Murakami (2000, pp.133), Table 4.

Intellectual properties can be the targets of license contracts and the official definition of intellectual property can be found in the WIPO (World Intellectual Property Organization) regulations. Intellectual property is defined in the following manner in accordance with Section 2, Article 8 of the agreement for establishing WIPO:

(1) Literary, artistic and scholastic writings

(2) Performances, recordings and broadcasts of performers

(3) Discoveries in all fields of human activity

(4) Scientific discoveries

(5) Designs

(6) Trademarks, service marks, trade names and other business related markings

(7) Rights related to protection against unfair competition

(8) All rights originating from the intellectual activities in the industrial, scholastic, literary and artistic fields

According to the WIPO definition there is an extremely wide range of items entitled to intellectual property protection, extending well beyond copyrights, neighboring rights [17] and other rights in accordance with the copyright laws, as well as the broadest definition of rights held by industry. This definition also includes rights for protecting semiconductor chips (mask work rights), new varieties of plants and animals and other biotechnologies, rights to multimedia software, exclusive and non-exclusive business secrets (know-how and trade secrets) and other rights for which there are no legislation such as characters and publicity (Chino, 2002, pp.6-7).

These rights include patented discoveries and business secrets (know-how), which are the main targets of the technology contracts. In some cases licenses are given to individual rights, but in many cases they are given to a group of rights.

In Japan "trade secret" is defined as "technological or business information useful for production methods, sales methods and other such business activities and are managed as secret information not to be disclosed to the public" (Section 2, Article 4 of the Unfair Competition Prevention Law). Specifically, this refers to the collection of secret technical information related to physical production, processing and storage methods, designs, testing data and research reports, as well as secret business management information such as customer lists, production cost tables, price lists and records of advertising ideas. However, words such as "know-how", "trade secrets", "proprietary information" and "corporate secrets" tend to be confused and are

17 Rights closely related to copyrights such as sound recording rights, image recording rights, broadcasting rights and reproduction rights.

often used interchangeably. The term "trade secrets" is used in the U.S. legal system. The TRIPs Agreement uses the terms "proprietary information" and "undisclosed information". The term "know-how" is used when wanting to express actual information such as manufacturing technologies and customer lists. Otherwise the term "trade secrets" is generally used. (Chino, 2002, pp.114-127).

The definition of "know-how" used in this report includes the above-mentioned actual information [18]. Furthermore, "technology" is seen as the fixed combination of personnel, information and equipment, with personnel and information seen as software and equipment seen as hardware. The know-how that is the object of license agreements is intellectual property, which is software when seen from the above-mentioned technical aspects. In other words, from the information viewpoint this refers to information technologies embodied in designs, technical specifications and other such documents, while from the personnel viewpoint this refers to occupational skills embodied in people [19].

2. Know-how Licenses

Know-how is secret technical information that is useful, not known to the public, held by a small number of people, is enthusiastically protected as information that cannot be disclosed or used without permission, and so has actual value to the owner and to those that may obtain licenses to the information in the future (Japan Institute of Invention and Innovation, 2000, pp.25).

Know-how is a valuable asset as long as the secrecy can be maintained, and it is important in that it can be the object of licensing contracts. However, know-how is not recognized as exclusive rights as is the case with patents, trademarks and copyrights.

Therefore, in the execution of license agreements there are cases in which know-how disclosure contracts or technical assistance contracts are enacted without enacting a know-how license contract.

Know-how license contracts can include such things as production technologies, water purification and other environment protection measures, disclosure and utilization contracts for technical secret information for security systems and others, management systems for hotels and franchises, disclosure and utilization contracts of secret corporate information such as for theme parks, and disclosure and utilization contracts for financial information software used in asset management systems (Yamamoto, 1998, pp.33) [20]. The two main methods for disclosing information are through the use of manuals and other documents and through the provision of instructions. The disclosure method and the effect of the disclosure will vary depending on the ability of the receiving side to absorb the information. The level of the licensed technologies and language problems cannot be easily dismissed when transferring technologies to developing countries [21].

Especially in the case of international know-how license contracts, careful consideration will be needed for the selection of the partner receiving the information. Special considerations and technologies will also be needed to ensure that the secrets are properly safeguarded after being transferred to the partner. For example, measures need to be taken for the following anticipated risks.

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18 The term "know-how", also generally called "technical secrets", refers to technical knowledge, experience, data and other such information that has secrecy, economic value and can be used in industry. There are differences between the terms "know-how" and "trade secrets". Know-how is information related to technical knowledge and experience. In other words, it is secret technical information. The definition of trade secrets extends beyond just secret technical information to also include secret management information. However, both of these terms are frequently used without making these strict distinctions (Japan Institute of Invention and Innovation, 2000, pp.25).

19 Ogawa's (1990, pp.24-27) definition of technology, Izumi's (1989, pp.195-196) definition of technology in technology transfers.

20 Strictly speaking, this refers to granting permission to use in the case of know-how and granting permission to put into effect in the case of a patent. The difference is in the legal wording.

21 Yamamoto (1998, pp71-72)

(1) Due to carelessness, confidentiality obligations are not imposed on the licensee contract, and as a result information is inadvertently disclosed.

(2) After completing the contract agreement, the licensee entrusts production to a third party, and this subcontractor uses the disclosed know-how to start a new business on its own.

(3) Engineers with access to the know-how are hired away by rival firms.

(4) The licensee breaks up after completion of the technology transfer.

(5) Technical training is provided before the official business license is concluded with a joint venture or other partner and so a technology transfer is inadvertently conducted free-of-charge.

(6) The local partner passes the licensed know-how and technologies of the foreign partner to one of its joint ventures.

(7) The licensee that received a license for use in a restricted region actually provides the technologies free-of-charge to a customer outside of the stipulated region where it is used to develop products and plant businesses (Yamamoto, 1998, pp.34, 37).

There are the following three conditions for the legal protection of know-how[22].

(1) The information is managed as a secret

(2) The information is useful

(3) The information is not open to the public

Once know-how with some value is disclosed, the process for receiving protection, as well as the economic value of that information, is seriously compromised.

The following section will explain some of the differences between know-how and patents (see Table 3).

For some discoveries there is the possibility that a patent request would be turned down on the grounds that the discovery does not do enough to advance the relevant field. On the other hand, there are also many discoveries that would very likely be granted a patent, but are kept secret to avoid having to make the discovery open to the public through the patent application process. For example, certain manufacturing techniques, such as temperature regulations and ingredient compositions, would not very likely receive a patent. There are also some manufacturing methods that are expected to be very hard to protect from infringement by outside parties. For such discoveries it is often the case that a decision is made to protect the discovered know-how by not applying for a patent.

Table 3 Comparison of Know-how Licenses and Patent Licenses

	Know-how Licenses	Patent Licenses
Legal Protection	Secrecy and the protection of secrets are necessary	Application and registration are necessary
Ownership of Rights	No legal grounds	Legal grounds
Regional and Time Restrictions	None as long as secrecy is maintained	Yes (region of patent registration, 20 years from time of patent application)
Disclosure	Undisclosed and so disclosure and technical guidance through the license is needed	Patented discoveries are disclosed
Identification of Technologies	Difficult	Can be easily identified through the detailed patent statement
After Contract Completion	Must determine if continued use is possible	Eliminated after completion of valid patent period

Source: Compiled by the author from Yamada (2002, pp.31), Oonuki (2001, pp.26-28)

22 If the know-how or trade secrets satisfy these conditions, the following actions would be considered unfair competition practices. (1) Use of unfair methods to acquire, use and disclose trade secrets, (2) party is aware upon or after receiving the information that the information was obtained and disclosed improperly, or the party obtains, uses or discloses trade secrets without realizing that they are trade secrets due to gross negligence, (3) use or disclose trade secrets with the aim of gaining an unfair advantage or hurting the holder of the trade secrets (Section 2, Articles 4~9 of Japan's Unfair Competition Prevention Law). Details of the relevant Chinese laws will be provided in Chapter 3.

Once a patent application is made, the discovery becomes public knowledge and so it is no longer the exclusive knowledge of the party that made the discovery. However, the U.S. does not have such a system of immediately making the discovery public when a patent application is submitted (partially instituted in 1999). This means that even when a patent request is rejected in the U.S., the party submitting the application still has some options available for protecting their discovery. However, in Japan, Europe and China [23], once a patent application is submitted, that information is made available to the public, even if the patent request is refused. In other words, there are no methods available for protecting the discovery once the patent request has been made. Therefore, before submitting a patent request, parties must carefully weigh whether they want to try and obtain the strong protection offered by a patent or if they want to keep their discovery secret to avoid the risks of having their request refused and their discovery made public. (Takakura, 2001, pp. 53)

It has been said that Japanese companies protectively acquire numerous patents to reduce the risks of being accused of patent infringement. However, the protection of patent rights is lost once the effective period for that patent expires. On the other hand, there are no such time limits on the protection on know-how, which can be protected for as long as the secrecy can be maintained. Rights can be immediately established[24] for know-how and a broad range of know-how can be protected, all without the need to go through the application, inspection and registration processes required for patents. However, in this case the company itself must protect these rights (Yamamoto, 1998, pp.26, pp.33).

Article 35 of the Japanese Patent Law[25] contains the regulations for patenting occupational discoveries, and they serve as the actual guidelines for problems associated with the relevant rights. The occupational discovery regulations can clarify some of the problems arising between companies and employees when the employee makes a discovery though their work with the company. Know-how has a more unstable legal footing as there are no guidelines or legal grounds equivalent to those found in Article 35 of the Patent Law (Japan Institute of Invention and Innovation, 2000, pp.26).

When an employee develops know-how through his or her work at a company, that know-how essentially belongs to the employee. As long as that know-how is not transferred to the corporation, it is very hard to determine if that business [26] is the holder of the trade secret in accordance with Article 2, Section 1, Clause 7 of the Japanese Unfair Competition Prevention Law[27].

Know-how licenses are different than patents in that there is a process for setting licensing conditions during the contractual negotiations. With patents the contents can be objectively identified through the patent announcement and registration processes. However, the basic essence of the know-how is secret and the contents are not made public. This means that in many cases an objective identification of the contents is difficult. In this case option contracts within the main contract can be very helpful. The option contract provides the licensee with the opportunity to evaluate the technologies and rights for a certain period in order to consider whether or not they want to conclude the main license contract. If there is a satisfactory assessment of the rights and technologies, the main contract attached

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23 The patent request is made public 18 months after the request is submitted (Article 34 of the Chinese Patent Law).

24 There is also no need for registration procedures to verify the creation period, as is the case with copyrights. (Yamamoto, 1998, pp33)

25 For China these regulations are contained in Article 6 of the Patent Law.

26 In accordance with Chinese law, this is the rights holder for the trade secret as defined by Article 10 of the Unfair Competition Prevention Law. Technology contracts may ask for guarantees regarding who is the legal owner of the technology (Article 349 of the Contract Law).

27 In this case the employee can still use the know-how after leaving the company, and the legal issues surrounding the relationship between the company where this person worked and the party that had received the license are not always clear. The problem is how to handle the license in regards to the corporations, which is also seen as an owner of know-how, the employee that left the corporation and the licensee of that know-how (Japan Institute of Invention and Innovation).

to the option contract can be concluded. In other words, this is a contract with a built-in option (Japan Institute of Invention and Innovation, 2000, pp.25-27).

3. International License Rules

1) TRIPs Agreement, Know-how and License Regulations

WIPO (World Intellectual Property Organization) was established as an agency for managing basic international laws for safeguarding intellectual properties. WIPO is a special United Nations organization established to promote the protection of intellectual property and manage the Paris Convention, the Berne Convention and other such agreements[28].

The Paris Convention has regulations regarding the protection of industrial property rights. The three main points of these regulations are the national treatment principles (each member state must grant the same advantages to nationals of other member states as it grants its own nationals), preferential rights given to the first to submit an application[29], and the independence of each countries patents. The Berne Convention aims for international protection of copyrights.

TRIPs spells out some of the rules for the trading of intellectual properties. The WTO Agreement took effect as of 1995, but TRIPs is seen as an amended agreement to the original agreement set up by the WTO.

TRIPs borrows some of the essential regulations of the Paris Convention, and even those countries that are not members of the Paris Convention are obligated to obey the regulations[30]. With the WIPO rules there are such problems as no effective sanctions for those violating the convention and the fact that negotiations are basically between groups and so it is hard for the developing countries to adopt the tough rules. WTO can enact economic sanctions and can make package deals (trades) combining other negotiation items (Takakura, 2001, pp.137-138). The significance of the TRIPs Agreement is that it has regulations that allow for disputes between two countries over violations to the agreement to be settled commercially through the WTO dispute processing procedures, and the agreement also aims to raise the level of international protection for a wide range of fields (Takakura, 2001, pp.151-152, 179).

According to TRIPs, patents will be available to discoveries in all technical fields that must be protected, including medicines and other chemical substance, and regardless of whether the subject is a product or process.

Regulations of patents for products extend to production, utilization, sales applications, sales and import, while regulations for methods extend to the use of the methods, as well as to the use, sales applications, sales and import of the items resulting directly from the method in question (Article 28 of the TRIPs Agreement).

The patent protection period is at least 20 years from the time of the application (Article 33 of TRIPs). The conditions that must be protected are indicated when establishing the compulsory execution rights In accordance with Chinese law, this is the rights holder for the trade secret as defined by Article 10 of the Unfair Competition Prevention Law. Technology contracts may ask for guarantees regarding who is the legal owner of the technology (Article 349 of the Contract Law)., in which a license contract is demanded by the authorities against the wishes[31] of the rights holder (Article 31 ofTRIPs) (Takakura, 2001, pp.163-168).

Disclosure, acquisition and usage of know-how by another company can be prevented provided that

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28 Launched in 1970 and oversees 24 agreements on the management and planned management of intellectual properties.

29 When a person makes a legitimate request for a patent or for the registration of a practical new idea, design or trademark in any of the member nations, that person or their successor will be granted preferential rights for the request in the other member nations for 12 months in the case of a patent or practical new idea and for six months in the case of a design or trademark. (Ohnuki, 2001, pp30)

30 This is also true for the Berne Convention, but the level of obligation is lower in some cases. (Takakura, 2001, pp16)

31 In developing countries there is the problem of the compulsory transfer of the rights on grounds that the patent discovery is not being used within the country (Takakura, 2001, pp.16).

the following three conditions are met: (1) the know-how is secret, (2) it has commercial value, and (3) steps are taken to keep it secret. When requesting permission from the government to produce pharmaceuticals or agricultural chemicals, the government may ask the applicant to submit certain data. In this case the government must protect the information from unfair commercial use. The TRIPs Agreement has such regulations to protect undisclosed information (Article 39 or TRIPs) (Takakura, 2001, pp.170).

In Japan, the U.S. and E.U. anti-monopoly laws and regulations can be applied when there are concerns about licensing agreements being used for monopolistic activities or to restrict trade. Examples include a licenser using the agreement to limit the business activities of the licensee and a licenser and licensee working together to exclude a third party business. However, where there are no regulations for licenses, there is basically a great deal of freedom except for technologies related to international and national security. Still, China and a few other Asian countries (Malaysia, Vietnam under certain conditions) have regulations for licenses to control and regulate the introduction of technologies from other countries [32].

In terms of international license regulations, advanced nations are relying on advice from OECD (Organization for Economic Cooperation and Development). Technology transfer codes [33] are being studied by UNCTAD (United Nations Conference on Trade and Development) for regulatory methods that also involve developing nations.

In either case the license restrictions will stop at the policy discussion level, there will not be the legal restraining power of a national law, and at this point there are no effective international rules (Murakami, 2000, pp.229).

The TRIPs Agreement has taken up the following points in regards to anticompetitive practices.

(1) Member countries confirm that competition-restricting provisions do not impede trade and the transfer of technologies

(2) Member countries identify anticompetitive practices and have the right to restrict these practices

(3) Member countries that suffer from anticompetitive practices have the right to request discussions with the country of the person holding those rights

(4) The country of the restricted rights holder can request consultations with the country imposing the rights (Article 40 of the TRIPs Agreement).

However, each country can freely impose license restrictions, and the following three restriction provisions have been enumerated: exclusive grant-back conditions, conditions preventing challenges to validity and coercive package licensing [34] (Murakami, 2000, pp.231). This shows how substantive rules are not always put into place (Takakura, 2001, pp.171).

Under TRIPs the member countries must recognize the rights of the right holders in regards to products that infringe on intellectual property rights, for at the very least those products that have trademarks or copyrights (including neighboring rights) [35].

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32 As will be explained in a later section, China has technology introduction control regulations and related bylaws that impose unfair conditions on foreign licenses. In Malaysia local companies must submit a notification to the Ministry of Industry and Commerce and gain approval from this ministry for the introduction of technologies, in accordance with the Industrial Coordination Law. In Vietnam civil law serves as the basic law for license contracts, but there are also some connections with the Foreign Investment Law (must obtain registration approval from the national authorities). (Ohnuki (2001, pp.38-39) for Malaysia and Vietnam).

33 Regulatory rules of control provisions

34 Grant-back refers to technologies improved by the licensee being provided back to the licenser. The transfer is called an "assign-back". There are many cases in which grant-backs and assign-backs on a grant basis are restricted by anti-monopoly laws and laws regarding the introduction of technology (Ohnuki, 2001, pp.134-137). Conditions preventing challenges to validity place an obligation on the licensee to not contest the validity and secrecy of the patent or know-how in the contract. Coercive package licensing means that the licenser puts the licensee under the obligation of having to accept multiple licenses (Japan Institute of Invention and Innovation, 2000, pp103, pp270).

35 Unified rules have been stipulated for the execution of rights such as (1) suspension of release by customs authorities (systematization of declaration rights) and (2) customs clearance through the provision of collateral (stops the abuse of suspensions) (Murakami, 2000, pp76).

However, in the case of parallel imports[36] with legitimate products there is the question of recognizing international right exhaustion[37] (= unable to prohibit the imports) or not recognizing international right exhaustion (= able to prohibit the imports). TRIPs is unable to handle disputes between nations regarding right exhaustion (Article 6), and so rules have not been established (Takakura, 2001, pp.89-90).

2) Handling in Accordance with Anti-Monopoly Laws and Export Control Regimes

In accordance with Fair Trade Commission Guidelines[38], unfair trading can be restricted and private monopolies can be prohibited in certain product and technology markets. This is accomplished through refusing licenses and adopting sales region restrictions within the license agreement. Furthermore, obligating the licensee to accept package licenses, pay fees after the patent period has expired and accept conditions preventing challenges to the validity of the rights can all be seen as obstructing fair trade.

Some comparisons can be made of how anti-monopoly law restrictions are handled in Japan, the U.S. and Europe (see Table 4)[39]. Black (provisions) represents items prohibited as general unfair trading practices. Grey (provisions) represents items that are not directly unfair trading practices, but they need to be individually judged by the Fair Trade Commission. Dark grey (provisions) represents items that are very likely against the law and white represents items that are not seen as unfair trading practices.

Basically the range for the rights are broken down by production, usage, and sales, and restrictions on the execution period, region and applicable technology fields are allowed (Yamada, 2002, pp.16).

Furthermore, COCOM (Coordinating Committee for Export Control to Communist Area) of the cold war era has been terminated. The Wassenaar Arrangement (WA), an export control regime (list restrictions), has been in place since 1996 to help prevent regional disputes in the place of COCOM (see Table 5)[40].

Among the general-purpose items there are very strict export restrictions for roughly 110 items in nine categories. Among these are "extremely sensitive items" such as high-speed computers and "sensitive items" such as high performance production equipment[41].

China is not a member nation.

3) License Fee Taxation

With an international license agreement the licenser, who is a non-resident, pays withholding taxes at a fixed rate on the license fees it receives from the licensee, who is a resident, based on the tax laws in the licensee's home country. Usually the withholding taxes on the license fees will be paid to the local tax authorities by the licensee on behalf of the licenser. Then the licensee will pay the licenser the license fees, minus the paid withholding taxes. In this case the licensee will usually have to provide the licenser with a certificate indicating the amount of taxes that were paid. The licenser can then use the certificate of paid tax received from the licensee to avoid paying the same tax in its own country. Priority is given to the application of tax treaties, based on the special treatment law for implementation of tax treaties (Yamada, 2002, pp.191-192).

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36 A retailer imports foreign goods through a route that bypasses its general agent in its home country.

37 The exhaustion of a right means that once the right has been properly sold, it is seen as being completely used up and so claims to that right can not be again asserted for the same things in the same country (Araki, 2001, pp.43-48).

38 Based on the "Guidelines for Applying Anti-Monopoly Law to Patent and Know-how License Contracts" released in 1999.

39 Anti-monopoly laws in China have not been fully enacted.

40 There are also international export control regimes such as NSG, AG and MTCR, which have been put in place to halt the spread of weapons of mass destruction.

41 In Japan goods are regulated through various export-related laws and regulations such as the Foreign Exchange and Foreign Trade Law. The amended Foreign Exchange Law enacted in April of 1998 liberalized normal trade with foreign partners, liberalized foreign exchange operations and clarified the after-the-fact reporting system. ("International Finance Yearbook" 1997 and 1998 issues)

Sometimes the prices for transactions between affiliate companies will be set at a low level that is generally not possible between independent companies. As a result, companies are able to transfer income to other countries with the intention of manipulating the amount of their taxable income (Nakata, Tanimoto, 1994, pp.86). The transfer price tax system was established to better regulate this practice. Specifically, this is a system within the tax law that states, "transaction prices with foreign affiliates, which will serve as the basis for calculating income, must be set based on the transaction prices between independent companies". The aim of this system is to prevent the transfer of income overseas through the arbitrary setting of prices with overseas affiliates.

Table 4 Comparison of Main Anti-Monopoly Law Restrictions in Japan, U.S. and Europe

	Japan	U.S.	Europe
Obligation to pay fees after patent rights expire	Dark grey provision	Black	White
Package license obligations	Grey provision	Grey	Grey
Conditions preventing challenges to validity	Grey provision	Black (patent) Grey (know-how)	Grey
R&D restrictions	Dark grey provision	Grey	Black
Assign-back of improved discoveries	Dark grey provision	Grey	Black
Restrictions against one-sided contract cancellation or without a proper grace period	Grey provision	Grey	Grey
Restrictions on the maximum number of items that can be produced or the maximum time rights can be used	Grey provision	White	Black
Restrictions on production and use of competing products and the use of competing technologies	Grey provision	Grey	Black
Production and use of competing products and use of competing technologies after the contract is completed	Dark grey provision	Grey	Grey
Obligation to purchase from the business designating the raw materials and parts	Grey provision	Grey	Grey
Restrictions on the quality of the patent products, raw materials and parts	Grey provision	Grey	Grey
Restrictions on the sale and resale prices	Black provision	Black	Black
Restrictions on sales amounts, buyers and sales of competing products, specific obligations such as obligation to use trademarks (non-price restrictions)	Grey provision	White	Black
Restrictions on export regions, prices and amounts, obligation to export through party designated by the licenser	Grey provision	Grey	Black

Source: An excerpt from Yamada (2002, pp.225)

Table 5 Overview of Wassenaar Arrangement (WA)

	Wassenaar Arrangement	COCOM
Goal	Prevent the excessive build-up of conventional weapons that could threaten regional stability	Prevent the transfer of high-tech goods to communist areas
Export Control Methods	Permission granted or denied based on the discretion of each country Coordinated efforts with information exchanged between countries	Common accord system (export permission is granted based on an agreement by all member countries)
Target Items	Weapons and related general items Target general purpose items more limited as compared to COCOM	Weapons and related general items (only those general items that are actually related to weapons)
Target Regions	Exports to all regions (Note)	Communist countries
Member Countries	Open to new member countries (In addition to the Western countries, Russia, Eastern European countries, Korea and Argentina have also joined. 33 member countries as of March 1998.)	Limited to Western countries

Note: In actual practice the advance nations impose strict restrictions on the exports to doubtful countries.
Source: "Practical Trade Digest", September 1996, pp.24-28

Initially the focus of this system was on the setting of prices for products, parts and other tangible items. However, recently there have also been numerous cases regarding the suitability of prices in license contracts for intangible items such as patents, trademarks and know-how. Here the setting of prices for license contracts with overseas affiliates must be in accordance with standards based on the prices that are set between independent companies. However, in the case of intellectual property it is hard to make judgments on questions such as "what standards are used to calculate the prices between independent companies". There are also diverging opinions on this matter between the tax authorities of the various countries [42].

Chapter 2
Japanese License-out Contracts with China

1. Current Status of Japanese License-out Contracts

It has been said that Japanese corporations tend to acquire large numbers of patents, both conventional patents and production-method patents, simply to protect themselves against the risk of other parties claiming patent infringement, and to also facilitate future cross-licensing negotiations [43]. Generally speaking, even though Japanese corporations see license fee revenues as a means for recovering research and development costs, these revenues are often not clearly positioned in their business strategies.[44]

For example, many companies in the electronics field are focusing not only on license fee revenues, but also on the importance of cross licensing. In fact, trying to develop products using various advanced technologies would be nearly impossible without using patents from other companies. Cross licenses are also needed so that the speed and freedom of a company's R&D does not become hampered by worrying too much about the patents held by other companies. Cross licensing usually does not entail the payment of license fees[45], and this helps to reduce some of the burdens associated with research and development.

The Japan Institute of Invention and Innovation[46] conducted a survey of the current situation in regards to patent license contracts. The results of this survey provide a good overview of the license-out situation whereby the rights to a patent or other such items held by one company (licenser) are provided to another company (licensee).

For Japanese companies roughly 60% of the partner companies with which they have license contracts are companies in Japan, and in most cases the rights are normal, non-exclusive rights. Also, the periods for which the rights are granted are usually the same as the valid period for the patent in question.

Contracts covering a package of two or more licenses are much more common than contracts for just a single license.

Roughly one-fourth of the contents involve the inclusion of know-how. Most of the contracts are targeting specific products, followed by contracts targeting parts and then those targeting production methods.

The most common reason for using the license-out option is the expectation of generating proceeds from the license. In most cases the licensee approaches the licenser with a request to use their license. In fact, it is rather rare for a licenser to try and promote the sales of its licenses.

There are several different forms in which the payment of the license fees can be made such as the "initial payment + running royalty method" and the "running royalty method" (even payment method).

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42 Japan Intellectual Property Association License Committee "License Contracts and Transfer Price Tax System" (JIPA journal "Chizai Kanri", Vol. 50, No. 6, 2000) pp.775

43 Indicated by Hayashi (2002, pp.5), Konno (2002, pp.136) and others

44 Results of "Survey on Intellectual Property Rights" by Nihon Keizai Shimbun (1997)

45 The values of the licenses being exchanged are not always equal. There are balance payment cases in which one side will still have to pay a certain amount to the other side based on the respective values of the licenses.

46 Based on a questionnaire survey of the top 300 corporations submitting patent applications in Japan in 1998.

The lump-sum payment method is rarely used. For licenses with know-how it is common to adopt an initial payment in line with the value of the information disclosure or technology transfer[47].

In a comparatively large number of cases using the running royalty method, the royalty rate is set somewhere between 3% and 4%" of the sales amount (amount shipped from factory excluding taxes). The company's past licensing results are often used as the criteria for setting this rate, with considerations given to the global market (past results) and costs such as R&D expenses. Calculations are made based on one of the following standards: cost approach, market approach, income approach and option approach[48]. In Japan rates are mostly calculated using the market approach.

Most of the licenses held by Japanese corporations are non-exclusive normal rights. The price of the right can vary greatly depending on whether or not the right is exclusive or non-exclusive. In the case of exclusive rights it is assumed that the licenser will not be able to collect license fees from others and so in most cases the license fees themselves are much higher, or the royalty rate is increased or a minimum royalty[49] is requested. When the minimum royalty is not reached, there are some cases in which an incentive is stipulated such as having the difference between the minimum royalty and the actual royalty credited to the royalty amount for the following fiscal year.[50]

2. Japan's International License-out Situation

Since 1997 Japan has been exporting more technologies, such as industrial property rights and know-how, than it has imported and this technology export surplus has steadily grown[51]. However, the total for users fees for patents, including copyrights, is still in a deficit in terms of the net balance of payments (see Table 6). There is a large gap between the U.S. and Japan in terms of the net balance for royalties and licenses (see Table 7).

Looking at the comparison of technology exports simply in terms of amount, the U.S. exports come to roughly $38 billion, which is roughly 3.7 times the

Table 6 Japan's Balance of Payments for Use Charges for Patent and Others (past 10 years)

Unit: ¥100 million

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Industrial right user fees	–	–	–	–	▲833	199	321	496	1,422	2,151
Others	–	–	–	–	▲2,594	▲2,993	▲2,368	▲2,399	▲2,260	▲2,981
Total	▲5,145	▲3,703	▲3,183	▲3,214	▲3,427	▲2,794	▲2,047	▲1,903	▲8,38	▲830

Note: Here the term "Use Charges for Patent and Others" refers to fees for the use of such rights as industrial property rights, mining rights and copyrights, as well as user fees for films and original copies. The term "industrial right user fees" refers to industrial property rights, mining rights, know-how and technical instruction.

Source: International Department, Bank of Japan "Monthly Report on Balance of Payment Statistics"

47 There are several reasons for setting an initial payment. It may be set as an advance payment for a portion of the know-how fees. It may be set to lower the royalty rates. It may be set to cover a past patent infringement or to cover past due know-how fees. It may even be set as payment for a technology provision step (such as the provision of improved technological information or the minimum number of technicians dispatched to provide training for the technology transfer). (Japan Institute of Invention and Innovation, 2000, pp.242)

48 The cost approach is an evaluation method that uses estimates of the necessary costs for reacquiring the previously acquired intellectual property. The market approach is an evaluation method that uses estimates of the price of the intellectual property or a similar item when traded on an open market. The income approach is a method through which the future earnings potential of the property is discounted back to the present value. (Kikuchi, 1998, pp.145) The option approach is a method for stressing the value of future information. This approach is also known as the adjusted income approach.

49 This refers to the minimum royalty that must be paid in the event that the royalty amount generated during the period set in the contract does not reach a certain set amount. (Yamada, 2002, pp.119)

50 Torahiko Maki "License Contract and Insights into Royalty" (Patent Lawyers Association Journal "Patent" Vol.53 No.12, 2000) pp.24-25.

51 Looking at the situation for international licenses over the past three years, the increase in the amount of royalties received from overseas has been larger than the amount of royalties paid to overseas parties. (Maki opere citato, pp.28) This trend was also seen in the results of a survey on royalties conducted by the Licensing Executives Society Japan.

Table 7 U.S. Balance of Payments for Royalties and License Fees (past 10 years)

Unit: million dollars

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Between U.S. parent-subsidiaries	14,736	14,702	18,830	20,816	21,958	21,712	22,580	22,309	22,260	21,574
Others	944	1,961	2,030	2,554	2,675	2,355	1,811	1,498	▲336	902
Total	15,680	16,663	20,860	23,370	24,633	24,067	24,391	23,807	21,924	22,476

Source: Bureau of Economic Analysis (U.S. Department of Commerce) "U.S. International Transactions Accounts Data".

amount exported by Japan (2000 data).

This section will provide in overview of the situation surrounding Japanese technology exports such as industrial property rights and know-how, starting with a look at the number of contracts [52]. More than half of all the recipients of Japanese technology exports are in Asia, followed by North America and Europe. By country, America is the largest recipient of Japanese technology exports. Many firms in Singapore, Thailand and Hong Kong that have capital ties with Japanese corporations are recipients of technology exports. However, such companies with capital ties to Japanese corporations account for only about one-third of all technology exports.

Most of the technology exports are in the field of transport equipment followed by electronic parts / devices and power generators / wiring / industrial use electrical machinery. Most of the contract periods are for between 5 to 10 years or for the period of the industrial property right. When the company has a capital tie with the Japanese firm, fees are usually paid in the form of running royalties. For other companies these fees tend to be paid in the form of initial payments.

Looking at the types of technology exported it can be seen that most of the contracts include know-how. In fact the contracts with Asian countries tend to be primarily based on know-how (most of the contracts with U.S. and European firms have a nice balance between patents and know-how). It is rather rare for there to be a contract for only one patent, and in most cases the contract covers several patents. In fact, the number of contracts covering large numbers of patents (50 or more) has been increasing.

This next section will provide an overview of technology exports based on value [53]. The value of the exports to the U.S. overwhelms those to other regions and accounts for almost half of the total technology export amount. The value of technology exports to Asia is about 25% of the total. The main recipients of the technology exports in Asia are Taiwan, China, Thailand and Korea.

A breakdown by field shows that the automobile sector accounts for the largest portion of the overall value of technology exports (493.2 billion yen). This is followed by electric machinery (204.4 billion yen, of this 126.6 billion yen attributed to communications / electronics / electric measuring equipment) and then pharmaceuticals (103.6 billion yen). Automobile-related technology exports are mainly to the U.S. (293 billion yen), electric machinery technology exports are mainly to Asia (123.4 billion yen) and pharmaceutical-related technology exports are mainly to the U.S. (82.6 billion yen).

However, the percentage of the U.S. technology export amount involving parent-subsidiary relationship with a U.S. firm came to 77% in 1990, 71% in 1995 and only 61% in 2001. These percentages stood at 75% in 1965 and at a high of 82% in 1975 during an age in which most technology exports went to the rising number of multinational firms. [54] However, recently there has been a much greater

52 Ministry of Education, Culture, Sports, Science and Technology, Science and Technology Policy Institute "Reality of Japan's Technology Export" (FY1999 data). Here the term "technology exports" refers to the transfer and establishment of use right for industrial property rights (patents, utility models, designs, trademarks) and know-how (including software), as well as the provision of technical instruction.

53 Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Survey Report on Science and technology Research" (FY1999 data). These are statistical values based on a survey of the total amount for manufacturing sector patents, know-how and technical instruction and so differ from the figures in the monthly report on international balance of payment statistics prepared by the Bank of Japan, which are based on foreign exchange and foreign trade laws.

54 Saito (1979, pp.276)

dispersion of technology exports to companies not involved in a parent-subsidiary relationship. The percentage of the technology trade surplus in the U.S. resulting from transactions between U.S. parent companies and their subsidiaries came to 94% in 1990, 89% in 1995 and 96% in 2001. So clearly most of this surplus is generated through transactions between companies within a group headed by an American parent. In recent years this amount has remained consistently above $20 billion each year (see Table 7).

3. License-out to China

As mentioned earlier, the largest number of recipients of Japanese technology exports is the U.S., followed by China and the other nations in the Asian region (data for FY 1999 is shown in Table 8).

Most of the technology exports to China are in the area of electronics/electrical equipment, followed by machinery[55]. These two main fields account for about 70% of the overall total. Roughly 50% of the recipients of the contracts are companies that have capital relationships with the Japanese firms. However, it is still important to note that roughly 50% of the recipients are companies without any capital ties to the Japanese firms. The most common method for paying the fees is the "running method only", followed by the "initial payment + running method". Compared to the other Asian nations, contracts with exclusive rights are rather rare in China (contracts with reusable rights allowing the recipient of the exported technology to transfer it to a third party is rather rare in the other Asian countries).

Chinese firms do not have the same capacity to absorb the technologies as those in the U.S. and Europe. As such, the contents of the contracts with Chinese firms overwhelmingly involve know-how as opposed to patents, which is a characteristic different from the contracts with U.S. and European firms (see Figure 1). This is indicative of the strong emphasis placed on the elements for creating "things" [56] such as core production technologies and technical and management guidance (management techniques).

As mentioned earlier, this point is not limited to China, but seems to be a characteristic that applies to most contracts with Asian countries.

In terms of the export amounts, China is the second largest recipient in the Asian region after Taiwan (refer to FY 1999 in Table 9). In the case of electric machinery China is a major export recipient right along with Taiwan.

In terms of the international balance of payments for patent and other user fees, Japan has a big deficit with the U.S., but a surplus with the rest of Asia. Surpluses are particularly large with Taiwan, Thailand, Korea, China and Malaysia (refer to 2000 in Table 10). This means that China is one of the biggest sources of license fee revenues.

Table 8 Main Recipient Countries and Regions for Japanese Technology Exports (No. of contracts)

Units: No. of contracts (left), percentage of overall amount (right)

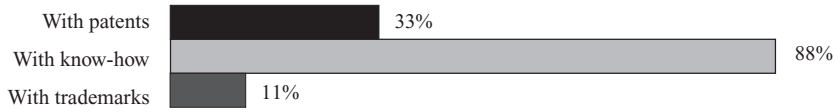
	FY1995		FY1996		FY1997		FY1998		FY1999	
U.S.	130	17.0	173	20.5	122	19.7	138	20.4	93	22.7
China	121	15.8	93	11.0	86	13.9	97	14.3	61	14.9
Taiwan	65	8.5	67	8.0	60	9.7	68	10.0	48	11.7
Korea	125	16.3	127	15.1	74	11.9	49	7.2	42	10.3
Thailand	62	8.1	54	6.4	30	4.8	36	5.3	24	5.9
Total in Asia	494	64.5	489	58.1	347	56.0	378	55.8	229	56.0
All regions	766	100.0	842	100.0	620	100.0	677	100.0	409	100.0

Source: National Institute of Science and Technology Policy, Ministry of Education, Culture, Sports, Science and Technology "Status of Japanese Technology Exports".

55 Ministry of Education, Culture, Sports, Science and Technology, Science and Technology Policy Institute "Reality of Japan's Technology Export" (FY1999 data).

56 Akashi (2000, pp.22). Japanese company B also said that until now their basic philosophy has been to license technologies for creating "things". (based on an interview with intellectual property department of Japanese company (May 24, 2002) made by the author).

Figure 1 Breakdown of Patents, Know-how and Trademarks within Technology Export Contracts to China (FY 1999)



Source: National Institute of Science and Technology Policy, Ministry of Education, Culture, Sports, Science and Technology "Status of Japanese Technology Exports".

Table 9 Top Recipient Countries and Regions for Japanese Technology Exports (amount of exports)

Unit: Amount (left) in 100 million yen, percentage of overall total (right)

	FY1995		FY1996		FY1997		FY1998		FY1999	
U.S.	1,606	28.6	2,082	29.6	3,653	43.9	4,260	46.5	4,691	48.8
U.K.	413	7.3	459	6.5	578	7.0	753	8.2	609	6.3
Taiwan	441	7.8	402	5.7	508	6.1	503	5.5	549	5.7
China	178	3.2	469	6.7	436	5.2	434	4.7	469	4.9
Thailand	462	8.2	513	7.3	415	5.0	304	3.3	354	3.7
Korea	646	11.5	696	9.9	460	5.5	385	4.2	331	3.4
Total in Asia	2,807	49.9	3,435	48.9	2,851	34.3	2,513	27.4	2,491	25.9
All regions	5,621	100.0	7,030	100.0	8,316	100.0	9,161	100.0	9,608	100.0

Note: The software industry was added to the survey as of fiscal 1996.
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Survey Report on Science and technology Research" (FY1999 data).

Table 10 Japan's Balance of Payments for Use Charges for Patent and Others (Asia)

Unit: ¥100 million

	FY1997	FY1998	FY1999	FY2000
China	253	244	275	334
Taiwan	371	473	455	561
Korea	510	360	323	365
Hong Kong	242	205	141	211
Singapore	316	264	46	▲292
Thailand	506	404	349	421
Indonesia	267	▲429	▲504	▲181
Malaysia	392	264	206	268
Philippines	92	146	84	234
India	68	61	41	54
Total in Asia	3,019	2,002	1,437	1,993

Note: Here the term "Use Charges for Patent and Others" refers to fees for the use of such rights as industrial property rights, mining rights and copyrights, as well as user fees for films and original copies.
Source: International Department, Bank of Japan "Monthly Report on Balance of Payment Statistics"

Table 11 U.S. Balance of Payments for Royalties and License Fees (Asia and Africa excluding Japan)

Unit: million dollars

	FY1997	FY1998	FY1999	FY2000
Asia and Africa excluding Japan	4,102	3,977	4,193	4,491

Source: Bureau of Economic Analysis (U.S. Department of Commerce) "U.S. International Transactions Accounts Data".

A look at the U.S. situation can serve as a good reference. The U.S. consistently records annual surpluses of more than $4 billion from the Asian (excluding Japan) and African regions. This clearly shows that the U.S. has been able to effectively harness the strengths of its international license business (see Table 11).

Here we will consider some of the aims of the licensers that export technologies to China. Along with direct investment in China, Japanese corporations are also promoting technology transfers for creating "things". Transactions just for license-out agreements are actually somewhat rare [57]. Taking this situation into consideration, it would seem that the three of the four incentives indicated by Akiyama (1991, pp.11-13) apply to the technology exports to China (excluding the cross-licenses incentive). However, in light of the requests for higher corporate and shareholder values, the significance of license fee revenue will probably gradually change to where it is seen as an important means for obtaining a steady flow of revenue.

In terms of gaining access to the Chinese market following the nation's ascension to the WTO, there have been efforts to create de facto standards (actual industry standards) for products in the local market through the provision of licenses to companies where there are no capital ties, and there has been the OEM procurement of products priced to promote their spread in the local market. The aim is to secure local supply bases with the goal of having the technology standards on the market match the technologies being provided to the market.

One good example is the DVD (digital versatile disc) standards [58]. The recording specifications for DVD equipment produced by different companies are different (playing specifications are uniform) and so the various camps have been providing their technologies to the Chinese industries as they compete to develop a market accommodating their own specifications. It is difficult to obtain accurate statistics about OEM in China, but it can be assumed that a large percentage of the OEM by local corporations is for large home appliances. [59] Until now most of the products procured through OEM were for exporting, as basic export obligations were imposed on these products. However, China's entry into the WTO has helped to liberalize the flow of products into the local market. This means that the characteristics of the local corporations that have been accumulating operational and mass production technologies, in other words the "low-end / assembly" architecture for creating things [60], can be put to use, while at the same time the use of license-out agreements to compensate for some of the lacking areas may create new flows of products and technologies. Furthermore, there are also the following four aims for conducting license-out agreements in China.

57 In the 1980's China still had a policy of promoting domestic production and so the main pillar of Japanese business in China involved the provision of technologies for major parts and production lines of home electronics. (Tomoo Maruyama "Investment in Asia by Japanese Electrical Industry" (Institute of Developing Economies "World Trend" No.78, March 2002) pp.5-7)

58 The DVD playing specifications were uniformed through an agreement between ten companies that held the basic patents. These ten companies have been divided into a group of 6 companies (6C), a group of 3 companies (3C) and 1 company (1C), and the patents are being mutually used between the groups. It has been said that if a single patent pool is not created, an agreement on the distribution of license fees cannot be reached (Nagaoka, 2002, pp.42). However, in the case of recording specifications, three different standards have been established. There are expectations that the recording standards for the next-generation large-volume DVDs will be the uniform.

59 Shigeki Ohara "China Electrical Industry Facing the Overseas Market", (Institute of Developing Economies, "World Trend", No. 78 March, 2002) pp. 9

60 Refer to Kita, (2002, pp.21-44) for further details on the "low-end / assembly" architecture.

(1) Establish an important means for generating stable profits through license fee revenues

(2) Combine technology exports with direct investment to capture and expand the market, while securing a dominating position within that market

(3) Complement the export of products that need many different technologies, and entice the export of materials

(4) Secure production bases with the aim of standardizing the technologies on the market and ensuring that the technologies being brought to the market are suitable

Chapter 3
Chinese Problems Impacting Know-how and Licenses

1. Chinese License Regulations and the Situation regarding Know-how and Licenses

1) Chinese License Regulations

Until now patents, know-how and other international license agreements between foreign and Chinese corporations have been regulated through the Control Regulation for Contract of Technology Introduction (old regulation), its relevant bylaws and the Registration Control Rule for Contract of Technology Import and Export[61]. There are still many problems and inconsistencies with the TRIPs Agreement such as restrictions being placed on the provision of licenses for intellectual property held by a foreign licenser and disadvantageous conditions being placed on contracts with foreign licensers.

Under the Control Regulation for Contract of Technology Introduction (old regulation) and its bylaws the introduction of technology is subject to an inspection and approval process. Een if both sides have already reached an agreement regarding the license contract (technology provision contract), the deal can still be voided if final approval is not obtained from the Foreign Trade and Economic Development Committee. In order to get this approval the royalty fees have to be less than 3% in most cases and less than 4% when the use of trademarks is included. The contract period is for less than seven years and the period for maintaining confidentiality becomes invalid as soon as the contract expires.[62] Know-how is different from patents and trademarks in that it is not protected through a registration process and no legislation is in place to protect it. With the old regulations a company could not prohibit the use of its technologies or ask for confidentiality to be maintained once the contract had expired. This means that the use of the technologies and know-how by the Chinese company is allowed after the contract expires. It could be said that under this system the know-how is not really being licensed, but it is essentially being given to the Chinese corporation[63]. The collection of the license fees is generally through a running royalty method based on a percentage of the net sales (Article 46, Section 1 of the Regulation to Execute Joint Venture Law [old regulation]).

With the license fee lump-sum payment method the foreign currency investment amount by the foreign side is returned to the foreign side, and so this introduction of foreign investment is not related to an introduction of foreign capital (Suzuki, 1994, pp.219-220)[64].

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61 Was abolished in January 2002 with the introduction of new regulations (Control Regulation of Technology Import and Export). Refer to Kita (2002b, pp.28-19) for concrete problems.

62 Materials of Japan-China Economic Association

63 Yoshio Iteya "Chinese Business Frontier 6" Commercial Law Research Group. [NBL] November 1, 1996). Know-how can be provided to joint venture companies as an investment of goods. This is possible if the industrial property rights or know-how provided by the foreign company satisfies one of the following two conditions (Article 25 of the Regulation to Execute Joint Venture Law): (1) will greatly improve the performance or quality of existing products, or will raise production efficiency, (2) will greatly reduce the amounts of raw materials, fuel or power. The total investment amount from the industrial property rights and know-how must be less than 20% of the registered capital for the joint venture (Article 24 of the Corporate Law). There are two methods for making the necessary evaluations: (1) agreement reached after fair and rational consultations with the involved parties, and (2) third party that both of the relevant parties agree to is asked to make the assessment (Article 22 of the Regulation to Execute Joint Venture Law). (Yoshio Iteya "Chinese Business Frontier 2" Commercial Law Research Group [NBL] September 1, 1996 was revised.)

64 The July 2001 amended provision (Regulation to Execute Joint Venture Law) stated just that the license fees are to be fair and rational (Article 43, Section 1).

However, the restrictions on the effective period for the technology introduction contracts (upper limit of 10 years) means that the period for the license contract can be less than the effective period for the patent rights in question, which is in conflict with articles 28 and 33 of the TRIPs Agreement[65]. As mentioned earlier, the contracts cannot include provisions preventing the licensee from using the rights after the contract has expired. Likewise, conditions requiring the licensee to maintain confidentiality after the contract has ended are also not allowed. However, know-how and other undisclosed information included in the provided technology need to be protected from being disclosed to and used by other parties (Article 39, Section 2 of the TRIPs Agreement). Restrictions on the royalty rates[66] effectively restrict the rights of the licenser to conclude contracts with other parties.[67] There are other problems involving the provision of technology such as the requirements to guarantee that there are no infringements on rights held by a third party, guarantee that technical targets will be met, and the prohibiting of export restriction conditions in the contract that limit the licensee's export partners.

Product liability is stipulated in China's Product Quality Law. This law is generally interpreted as saying the licenser is not the main party responsible for product liability. However, the licenser may have to pay the licensee damages if there is a latent defect in the technology.[68]

2) Actual License and Know-how Situation in China

License contracts among Japanese-Chinese joint ventures cannot be concluded unless all of the contract contents meet with the approval of the central government[69]. This is especially true for manufacturers that assemble products using a large percentage of parts ordered from outside the company. These companies have individual intellectual contracts with multiple parts makers and various research organizations and so the disclosure level for technical information needs to be determined within the particulars[70].

When the intellectual property for the parts being used exists externally, the company assembling the product is not allowed to disclose that information. This technical information disclosure involving third-party information held by an external business partner has become a serious problem.[71]

In the case of the petroleum, petrochemical and chemical industries, the license contract with a Chinese partner is tied into a plant export contract (covering plant basic design, procurement of imported items, management of construction). Even when the Chinese-side customer has decided on a certain technology introduction, the relevant technologies are licensed to the Chinese customer through the contractor that has the plant export contract. In other words, the contractor receives the technical license from the licenser and then the contractor provides this to the customer in the form of a sub-license[72].

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65 Right of the patent holder to enter into contracts to confer the rights to others (Article 28), term of patent protection set at 20 years (Article 33).

66 Even though the guiding principles were abolished in 1993, administrative guidance is still being conducted. (Suzuki, 2002, pp.17)

67 Ministry of International Trade and Industry, International Trade Policy Bureau "Unfair Trade Report for 2002" pp.281-282, 414-415.

68 Yoshio Iteya "Chinese Business Frontier 7" Commercial Law Research Group [NBL] November 15, 1996).

69 A pre-reporting system is used. All items for less than $5 million are inspected and improved by the local government, and items exceeding this amount are inspected and approved by the central government.

70 In the case of parts these particulars determine how much technical information can be disclosed for such things as materials, designs, manufacturing procedures and photo overviews. (Yukinosuke Mine "Honda Dream of Driving Fast on the Eternal Ground in China" Japan Institute of Invention and Innovation "Invention" Vol.99, April 2002, pp73)

71 Yukinosuke Mine "Honda Dream of Driving Fast on the Eternal Ground in China" Japan Institute of Invention and Innovation "Invention" Vol.99, April 2002, pp70-73

72 When a license is to be given to a customer that has not been granted trade autonomy, there are cases where the trading company assumes the role of the contract agent so that the customer does not become the direct target of the contract. There is not much of a legal basis from which a licenser can compel the customer receiving the license to maintain confidentiality, and so the protection of confidentiality remains limited to indirect monitoring. (Katsuhiro Takeda "Issues for Reforming China's Current Technology Introduction System", (Japan-China Economic Cooperation "Journal of Japan-China Economic Cooperation" May 1999) pp.81

If an independent license contract is not concluded (not recognized by the Chinese side), the license conditions can still be written into a portion of the plant export contract (as of 2000). Compared to the early 1980's when the plant business period started, the Chinese side now has much more interest, respect and awareness of the importance of intellectual property. However, the Chinese license business still presents many difficult problems for licensers. [73]

There have been numerous cases of trouble involving the leaking of technology and know-how in China. There have been cases where the Chinese corporation entrusted with producing the parts is given technical instruction, but parts resulting from this technical instruction are somehow given to a competing company in the local market. In the case of a joint venture, technical information is sometimes leaked to the Chinese partner, and then illegally copied products are produced. There have been cases where designs and other know-how were shared without permission and the exact same part emerges from another local corporation. There are even cases in which the person under contract to safeguard the information is hired away by another firm. These problems overlap with the risks involved with international know-how and license contracts mentioned in Chapter 1. [74]

The number of Japanese companies being damaged and running into trouble due to China's unreasonable restrictions on licenses has been increasing. Technology does have externalities[75]. However, progress being made in reforming the labor system in China has resulted in greater personnel liquidity accompanied by large technology spillovers. If the recipient Chinese corporation has the right assimilation capabilities, full use of synergy effects with their own technologies will be possible.[76] How to balance the protection of the rights of the developer with increasing the effects from the spread of technologies is a very important issue for those who determine government policy (Watanabe, Miyazaki, Katsumoto, 1998, pp.250). The balance between these two concerns changes with the times. However, the Chinese manufacturing sector currently has a low-end / assembly type architecture that is more focused on quickly bringing together parts and devices, as opposed to developing core technologies[77]. China's policies focus too much on the spread of technologies, and so this is probably a policy model that lacks sufficient incentives for conducting the underlying R&D needed for these technologies.

Some people believe that in China a patent-based license contract offers more advantages and security than a know-how license contract. There seems to the tendency to think that technology that has not been patented is not new or the level of the technology is not very high. Assessing technology and know-how is rather difficult and sometimes they are under valued. When technical instruction is provided up until the point where the technology can be used, and then requests are made for license fees in accordance with the agreement, there will sometimes be complaints that the technology at this point is already known to many people and so cannot be called "know-how" and this can sometimes result in problems such as the refusal to pay the license fees. There have even been cases in which lawsuits aimed at resolving these problems were met with countering claims of being swindled. Technologies purely based on know-how and without the national protection afforded to patents tend to be either under valued or subjected to very strict approval conditions. [78]

Aside from the general advantages offered by know-how patents mentioned earlier, there is still the

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73 Torahiko Maki "License Contract and Insights into Royalty" (Patent Lawyers Association Journal "Patent" Vol.53 No.12, 2000) pp.27.

74 Based on an interview with the local Japanese company by this author (November 12-21, 2001)

75 It is nearly impossible to use new knowledge and information gained through R&D solely for improving the advantages of your own company. Rather, they can be easily conveyed and used by other corporations.

76 Watanabe (2001, pp.34-40) in terms of technology spill-over.

77 Refer to Kita (2002b, pp.36-38) for further details on the low-end / assembly type architecture.

78 Masashi Kurose "Utilization of Patents in China and Points to Consider" (Japan Intellectual Property Association, JIPA Journal "Chizai Kanri" Vol.47 No.8, 1997) pp.1068

problem that the process for examining patent requests in China has become very long[79]. In fact, there have been some cases in which Japanese corporations have waited for more than eight years from the time of submitting their patent requests, only to have the request denied in the end. The provision of know-how in the form of technical instruction and advice has been fulfilling its role in the transfer of technologies in China. From the viewpoint of these unique characteristics of the Chinese market, know-how licenses become very important.

Furthermore, in January 2002 the Technology Import and Export Control Act (New Act), the Technology Control Rule for Banning and Restricting Imports, the Registration Control Rule for Technology Import and Export Contract and other regulations were newly enacted to better correspond with the TRIPs Agreement.

Several improvements were made such as abolishing the upper limit of 10 years for a license contract and making continued use of the rights by the licensee after conclusion of the contract something to be determined through discussions between the relevant parties. There have been other improvements, such as licensees are obligated to maintain the confidentiality of know-how for the period stipulated in the contract, and a notification system has been introduced for normal technologies.

However, the provided technologies still must be guaranteed, the reaching of technology targets still must be guaranteed, and damages must be paid in the event that the technologies infringe on the rights of a third party. This indicates that the Chinese laws and regulations governing licenses still contain many strict conditions for foreign licensers [80]. Furthermore, the July 2001 amendment to the Regulation to Execute Joint Venture Law did not make any improvements to the technology introduction regulations (especially in regards to Article 43). This is likely in violation of the equal national treatment stipulations (Article 3) and most-favorable nation treatment stipulations (Article 4) of the TRIPs Agreement.

2. Know-how Protection in Existing Chinese Laws

China's system for intellectual property, solely from the perspective of the existing laws, is generally similar to the contents of the TRIPs Agreement[81]. However, drastic improvements in the execution of these laws are still needed, particularly in the areas of more appropriate and efficient execution and improved control by the legal and administrative authorities. [82]

China's legal system has established regulations that make it illegal to infringe upon know-how. In terms of know-how protection there is the Unfair Competition Prevention Law, a direct regulation. In terms of prohibiting infringement on trade secrets there is the Labor Law, Contract Law and Civil Law, which have some related regulations.

The General Rules of Civil Law define know-how (trade secrets) as technical and/or business information that is not known to the general public, has practicality and for which the holder of the rights has taken steps to keep secret.

The following actions are considered to be infringements on know-how (trade secrets).

(1) Acquire the know-how (trade secrets) of the rights holder through unjust means such as theft, bribery or coercion

(2) Disclose, use or allow another person to use the know-how (trade secrets) obtained from the rights holder

(3) Disclose, use or allow another person to use the right holder's know-how (trade secrets) in violation of the agreement, or a third party acquires, uses or leaks the know-how (trade secrets) even when being aware that this information was obtained unlawfully through one of the acts described above

79 The annual report by the Office of United States Trade Representative on the Comprehensive Trade Act, special section 301, cites examples of how the patents of U.S. pharmaceutical companies have not been recognized in many cases.

80 Ministry of Economy, Trade and Industry, International Trade Policy Bureau, "Unfair Trade Report for 2002", pp114.

81 The Patent Law, Copyright Law, Trademark Law and Semiconductor IC Installation Law have already been amended and enacted.

82 It is also pointed out in the "Unfair Trade Report for 2002" pp.111-112 by Ministry of Economy, Trade and Industry, International Trade Policy Bureau

The Labor Law states that labor contracts can stipulate that the relevant parties are obligated to protect the user's know-how (trade secrets). The Contract Law regulates such items as the development of technical secrets, the returning of rights, usage, transfer, confidentiality obligations and breach of contract obligations.

One option in dealing with know-how infringements is to file charges with the court system (People's Court). The courts can stop infringements in accordance with the general rules of civil law and the Civil Proceedings Act. The courts can also order the person who infringed on the know-how to pay damages. Another option in dealing with know-how infringement is to request an investigation by the Control Agency of Commerce, Industry and Administration, an administrative organization. There are many advantageous to going through such an administrative organization. The procedures are simple and the cases are quickly taken up and discoveries are quickly made. However, in this case the offenders get only an administrative punishment, and the administrative organization cannot demand that they pay damages.

A legal system is in place to protect know-how (trade secrets), but it cannot be said that this system is without faults. Furthermore, the issues surrounding know-how (trade secrets) have not always been logically addressed by academic circles and the practical world, and this has led to some problems in executing the laws (Sun, 1996, pp.27).

There are still numerous individual problems surrounding the legal protection of know-how that have not yet been fully addressed. Specifically,[83] these include the contents and validity of know-how confidentiality contracts and conditions, the contents and validity of competition restriction contracts, the return of know-how rights and the enjoyment of benefits, obtaining know-how through negligence and then intentionally disclosing or transferring use of that know-how[84], the protection of know-how during legal proceedings and confidentiality obligations of those participating in legal proceedings.

The current laws for know-how protection are rather general and there is little awareness of the need for systemization and connections to other laws. Therefore, it is difficult to apply these laws in the actual administration of justice and even if a trial is convened, judgments are often not rendered. Therefore, effectively protecting corporate know-how is difficult and there is the problem that the lawful rights of the employees cannot be protected.[85]

3. Taxation of Know-how User Fees

The term "know-how user fees" (broad definition) in China's corporate income tax system refers to fees received for the provision of patent rights, exclusive technologies, trademark rights and copyrights. Costs for diagrams and other materials needed to provide the technologies, technical service fees (instruction, consulting), personnel training expenses (including training overseas) and other technical services can also be classified as "know-how". Know-how user fees paid in China are considered to be income generated in China. Revenues from know-how fees earned by a foreign company that does not have permanent facilities in China are taxed in accordance with the withholding tax system [86]. The withholding tax rate for Chinese corporations is set at 20%, but for Japanese corporations a 10% rate is applied in accordance with the China-Japan Tax Treaty (Kondo, 1997, pp. 193-196) (refer to Table 12). Under the Japanese Corporate Tax Law, income tax assessed in China (income tax for foreign-owned businesses) can basically be deducted from the amount

83 Sun (2001, pp46-50) for concrete problems

84 For example, in regards to the malicious acts of those receiving the know-how (Unfair Competition Prevention Law, Article 2 Section 2), there are no expressed regulations for how to handle such cases as when a person with good intentions receives know-how that was unjustly received or disclosed by another party, and then later uses the information for malicious purposes. (Sun, 1996, pp.16)

85 Sun, 2001, pp.46-50

86 In China when user fees are subject to withholding tax based on tax treaties, all fees paid to the licenser are subject to the withholding tax, regardless of where the license is actually used. In Japan, U.S. and other countries the withholding tax only applies when the license is used in the country of the person paying for the license. (Yamada, 2002, pp199-200)

Table 12 Preferential Tax Rates for Investments, Licenses and other Income from Japan (China-Japan Tax Treaty)

Unit: million dollars

	Foreign Tax Rate of Artificial Payment	Limited Tax Rate	Actual Tax Rate	Difference
Dividend (joint venture)	10%	10%	0%	10%
Interest	10%	10%	0%	–
License Fees	20%	10%	10%	10%

Source: Edited by Tohmatsu "Chinese Investment Guidebook Q&A" pp.116.

of corporate income tax paid in Japan [87]. In this manner the Japanese corporation is able to avoid double taxation. Two conditions must be met in order for this foreign tax credit to apply: (1) Japanese corporate taxes were generated (the company is not posting a loss), and (2) there is overseas (business) income (there would be no double taxation if the overseas business posted a loss) [88].

There are favorable tax treatments to encourage the introduction of advanced technologies. China does not impose withholding taxes on license fees received when a foreign country provides advanced technologies. Because withholding taxes on license fees for the advanced technologies are withheld, the entire license fee amount is remitted (Suzuki, 1994, pp.218).

Business falls outside the range of the China-Japan Tax Treaty, but taxes are still imposed on license fees[89]. However, certain items getting approval from the National Tax Authority are exempt from taxes (actually this refers to ministry-level science and technology supervisory divisions, supervisory tax organizations and the National Tax Authority[90].

On the other hand, license contracts in China, including license fees, must obtain final approval from government authorities and so limits are place on just how freely prices can be set between the two companies. For this reason there has not been the same problems with intellectual property and the transfer price tax system that have occurred in the advanced nations.

Chapter 4 Development and Risk Management in China

1. Chinese Market Strategies and Licenses

Implementation of the Technology Import and Export Control Act (New Act) and the related departmental regulations [91] (January 2002) has resulted in major changes to the basic systems in China. Major strides have been made from the international license business viewpoint[92]. These include the fact that government assessments of contracts for technologies

87 Japanese corporations are assessed an advance income tax of 10% of the users fees when the contract is made. The amount of income taxes paid in China is subtracted from the amount of income taxes the licenser must pay in Japan. (Sun, Huang, 1997, pp.1083)

88 Tax treaties aim to avoid double taxation. The China-Japan Tax Treaty targets income tax to avoid this double taxation (Japan: corporate tax and income tax, China: foreign-owned business income tax and personal income tax). Masato Yanase "Problem of Franchise Tax being applied to Royalties in China". (International Taxation Research Group "International Taxation" Vol.18 No.8 1998, pp.32)

89 Under the provisional franchise tax regulations, the transfer of intangible assets is subject to franchise taxes, and this includes licenses. Toshihide Mito "Protests Against the Decision to Apply Franchise Tax to User Fee Revenues from Know-how and License Contracts". (The Japanese Institute of International Business Law "International Law" Vol.28, No.2 2000, pp.244-246)

90 Zheng lingen "Tax Revenue Policies of Software in China" (Japan-China Economic Association" Japan-China Economic Journal" July 2001) pp.21-21

91 The Technology Control Rule for Banning and Restricting Imports, the Technology Control Rule for Banning and Restricting Exports and the Registration Control Rule for Technology Import and Export Contract were enacted at the same time as departmental rules of China's Ministry of Foreign Trade and Economic Cooperation

92 Yoshio Iteya, Kang shi "Establishment of Regulations and Bylaws for Governing China's Import and Export of Technologies" (The Japanese Insttitue of International Business Law, "Judicial Affairs of International Commercial Matters" Vol.30 No.2, 2002) pp.216

that are not prohibited or restricted are no longer needed, the fact that restrictions on license contract periods and confidentiality periods have been lifted, and the fact that obligations to allow for continued use after the contract has been expired have been removed. In short, a much better environment for licenses is now in place.

The following are examples of individual restriction provisions in the New Act.

(1) Regulations that prohibit restrictions on the domestic sales of products have been abolished, and restrictions on sales regions within the Chinese market can be established (restrictions on exports are still regulated).

(2) Conditions for the exchange of improved technologies can be freely determined by the relevant parties. However, restrictions cannot be placed on the use of improved technologies.

(3) Restrictions on routes for procuring raw materials and parts and restrictions on product production amounts, types and prices are prohibited. However, some restrictions are still allowed when there is a rational reason for having them[93].

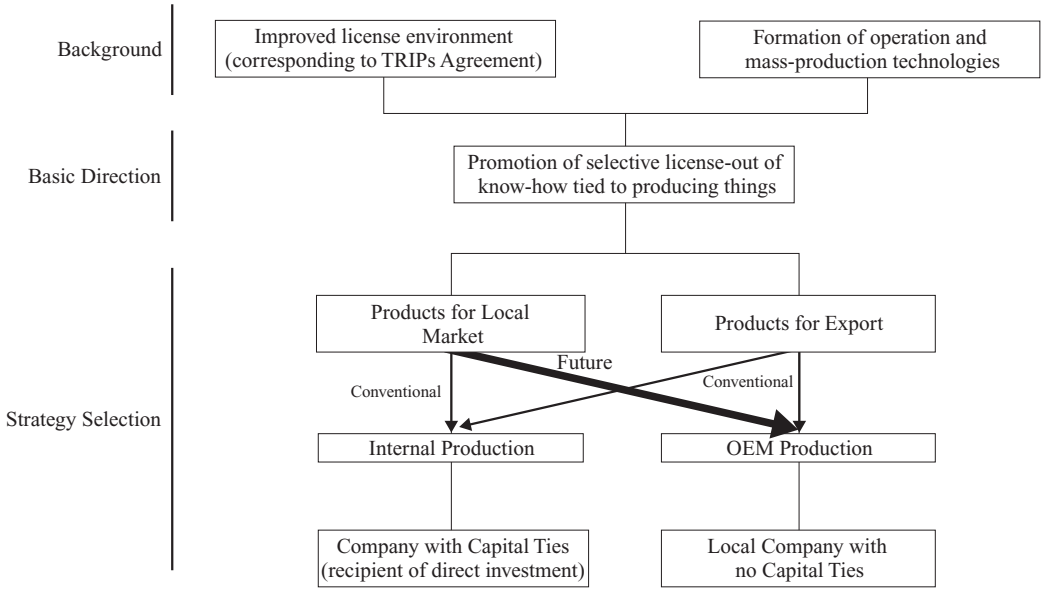
Figure 2 shows the license-out framework. However, one important goal of license-out agreements is to secure local productions bases through OEM with the aims of standardizing the technologies on the market and ensuring that the technologies are suitable for the market.

When looking towards the Chinese market as a sales region and for other strategic considerations, it can be said that a legal system is now in place that makes it much easier to effectively incorporate licenses into a market strategy.

Furthermore, the Protective Law of Business Secrets in China is being included in the legislation plans of the People's Congress[94], and the Foreign Trade and Economic Development Committee, a subordinate body to the People's Congress, is currently studying the drafts. There are expectations that the Protective Law of Business Secrets will be enacted.[95]

It is interesting to note the growing awareness of licenses among Chinese businesses. For example, it has been said that the big electronic maker Haixin

Figure 2 License-out Framework for Japanese Companies in China



Source: Prepared by the author.

93 There are no clear standards for judging which reasons are rational and which are irrational. (Iteya, Kang, opere citato, pp216)
94 Equivalent to Japan's Diet
95 Sun (2001, pp.47, 49)

(Qingdao) is paying 4% royalties on licenses it has received from U.S. corporations[96]. Recently companies importing and selling Chinese brand DVD players in the U.S. have been doing so through patent license contracts[97]. Chinese companies looking to expand their operations overseas, publicly traded companies and newly privatized companies are starting to realize the importance of patents and know-how[98]. These developments are all linked to ensuring that suitable prices are paid for licenses.

On the other hand, it was mentioned at the beginning of this report that most of the patents held by Japanese companies are not being used. Japanese companies involved in the Chinese markets should be looking at ways to make better use of these unused patents. In the case of patents it will be important to shift the focus from obtaining rights to making aggressive use of the patents.[99]

2. License-out Targets

Bressen (1991, pp.95-108) presented four type of corporate networks: networks within a company (intra), networks within a corporate group (trans), networks between companies (inter) and networks exceeding companies (meta). When these networks are examined from the viewpoint of utilizing know-how, the following relationships emerge: networks within a company = use by the company, networks within a corporate group = providing licenses to subsidiaries, networks between companies = providing licenses to companies outside of the group, and networks exceeding companies = open source[100]. This outline can be seen in Table 13. There are also cross licenses in the cases of networks within a corporate group and networks between companies. In the case of the "meta" networks exceeding companies, there are patents and patent platforms.[101]

Targets for the development of licenses in China can be broken into two main categories: Chinese subsidiaries within the group (joint ventures, wholly owned companies) and local Chinese companies outside of the group. There is likely still a gap with open source. This section will consider the Chinese subsidiary target.

As mentioned earlier, roughly half of the recipients of license-out agreements from Japanese corporations are companies with capital ties to the Japanese company. In China it is assumed that most of these capital ties are in the form of joint ventures

Table 13 Networks and Know-how Applications

Type of Network	Know-how Application
Networks within a company (intra)	Use by the company
Networks within a corporate group (trans)	Providing licenses to subsidiaries
Networks between companies (inter)	Providing licenses to companies outside of the group
Networks exceeding companies (meta)	Open source

Source: Prepared by the author.

96 Based on an interview with the local Japanese company by this author (November 12-21, 2001)

97 "Nihon Keizai Shimbun" 11th page, morning edition, April 12, 2002, "Asahi Shimbun", 10th page, morning edition April 12, 2002

98 In China the light high-tech fields such as information, electronics, and biotechnology are mainly handled by private high-tech firms. Basically, there is no investment from the state (when there is an investment by a government agency for the initial start-up of the company, the company is usually called a "state / private" company). (Hashida, 2002, pp.34, 74-75)

99 Large home electronics makers such as Haier and Meide have already established intellectual property divisions.

100 "Meta" aims to impact the environment surrounding the company's business activities. With "open source" discoveries are not monopolized or licensed for a fee, but rather are made available to the public free of charge to be used by anyone. (Yamada, 2002, pp22).

101 With a patent platform a patent evaluation body or a licensing manager concludes the individual standard license contracts once there has been a basic contractual agreement between the essential license holder and the licensee. Bi-lateral license contracts (contracts in which equivalent burdens are shared) are possible when there is an agreement between the relevant parties. (Yamada, 202, pp21)

and wholly owned companies. Table 14 shows a comparison of income and expenditures for "direct investment benefits" mainly in the form of dividends, distributed profit of the branch office and reinvestment benefits[102] from China to Japan, as well as the use charges for patents and others based on the license contract. Direct investment benefits from joint ventures and wholly owned companies were in the red for 1999 and 2000 (this trend was seen for all of Asia). According to the Survey of Overseas Business Operations by Japanese Companies (Ministry of Economy, Trade and Industry) the current profit to sales ratio for local Japanese firms in China has been falling each year and this result is being directly seen.

On the other hand, use charges for patents and others still include companies with no capital ties to the Japanese firms, and so have remained much more stable as compared to the income and expenditures. From the point of view of international taxes and the repatriation of funds to the home country of multinational corporations, it should be noted that in China the tax on dividends sent overseas is 37%. This is lower than Japan's corporate tax rate and so there is no impact on the configuration of the dividends, royalties and interest sent to the home country in order to decrease the tax burden for the overall group[103]. (In other words, there is no need for a strategy in which royalties and interest payments are increased and dividends are decreased.)

For the U.S. corporations, the bulk of the profits from their technology trade balance is between the U.S. parent and its subsidiaries. In other words, these profits are generated within the group. Licenses are also an important means for securing stable profits. Japanese corporations must reorganize their Chinese business portfolios, select Chinese subsidiaries (joint ventures, wholly owned companies) that need to raise their market power through capital increases and other means[104], and then through this build an appropriate mechanism by which stable license fees can be obtained. Of course a philosophy for obtaining appropriate license fees on a global scale is also essential.

The next section will examine local Chinese corporations. Japanese corporations are promoting technology transfers in China for "making things", which are tied to know-how direct investments and OEM procurement. License-out agreements are seen as separate from "making things" and so the trading of just these agreements alone is not very common. However, many Japanese corporations expect the Chinese market, which has been able to use cheap labor fees to achieve rapid growth, will one day become the main target for license agreements[105].

Table 14 Japan's Balance of Payments with China

Unit: 100 million yen

		1997	1998	1999	2000
China	Use charges of patent and others	253	244	275	334
	Direct investment benefits	111	249	▲88	▲112
Whole area Direct investment benefits	Use charges of patent and others	3,019	2,002	1,437	1,993
	Direct investment benefits	9,282	4,798	▲3,196	▲1,539
All regions Direct investment	Use charges of patent and others	▲2,795	▲2,047	▲1,903	▲839
	Direct investment benefits	14,643	12,978	4,342	6,080

Notes
1) The term "use charges of patent and others" refers to the reception and payment of user fees for rights such as industrial property rights, mining rights and copyrights, as well as for original copies such as films.
2) Direct investment benefits can be classified as investment profits from income revenue and expenditures, but within this classification it can refer to profits, dividends and reinvestment benefits from branches and subsidiaries related to the internal and external direct investment, as well as the reception and payment of interest on loans with the subsidiaries and others.

Source: Bank of Japan, International Division "Balance of Payments Monthly".

102 Reinvested profit is said to be the share for the undistributed profits (internal reserves) of the corporation receiving the overseas direct investment.
103 Refer to Minagawa (1993, pp.103-115) for more information on strategies involving the repatriation of funds to the home country.
104 The recent trend has pointed toward an increase in the number of Chinese manufacturing subsidiaries that are wholly owned companies (based on interviews by the author with Japanese corporations and the Japan-China Association of Economy and Trade (April 22 and May 24, 2002).
105 "Nihon Keizai Shimbun" front page, morning edition, April 2, 2002, front page, morning edition May 8, 2002

As mentioned earlier, license-out agreements are important from a market strategy perspective in that they can help to standardize the technologies on the market, ensure that the technologies are suitable for the market and secure local supply bases through OEM.

The following are the two main methods for foreign sales strategies.

(1) Through regular business activities provide your patents and, in some cases, technologies and know-how to interested parties through license contracts

(2) Warn companies that they are making and marketing products that infringe upon your patents, and then use this warning to lead into eventual license contracts with the offenders

In the case of (2) companies in advanced countries will often enter into cross-licensing agreements in which they share their patent rights. Comprehensive cross-licensing contracts [106], in particular, have been getting a lot of attention[107]. Of course the Chinese partners often do not have the same level of technical skill and so there is little incentive for cross-licensing agreements, and there is the possibility that these will simply become one-sided licensing contracts.

Some of the licensees receiving the know-how have indicated that documents from the licenser for disclosing the information are sometimes incomplete and that the linguistic skills of the technical staff is also lacking. Know-how is not only information-based technology, but is also made up of personnel-based technologies (refer to Chapter 1). The role of people in license contracts is very large, and the packaging of technologies is difficult. Japanese corporations are generally poor at producing manuals. For example, the results of a survey of the electronic machinery industry in Asia shows that very little progress has been made in making manuals for practical technologies (see Table 15).

There is really no one best way for making manuals for technologies[108]. However, these manuals can serve as effective negotiating tools from the standpoint of securing a suitable price for the know-how license. Know-how consists of practical and useful information, but it will be rather difficult to obtain a suitable price for just the know-how alone. It will be much easier to negotiate prices when the conceptual, logical and empirical elements can be refined to such a degree that they are backed by knowledge and understanding [109].

Table 15 Production of Manuals by Japanese Companies in English or the Local Language

		Manuals for All Technologies	Manuals for some technologies	No Manuals	Total
Business Technologies	Improved equipment and facilities	9%	30%	61%	100%
	Improved tools and jigs	9%	30%	61%	100%
	Production line designs	9%	26%	65%	100%
	Product design development	9%	35%	56%	100%
Management Technologies	Inventory management	35%	48%	17%	100%
	Production management	44%	35%	21%	100%
	Cost management	30%	52%	18%	100%
	Quality control	61%	26%	13%	100%

Note: n=23
Source: An excerpt from Tokyo Consulting (1997, pp.81)

106 With a comprehensive cross-licensing agreement all of the patents and utility model rights for a particular product are shared.
107 Refer to Hitachi (1995, pp.169-170) for further details on overseas sales strategies.
108 There is the issue of just how much detail can be added to the manuals while still being able to protect the confidentiality of the technology.
109 References taken from the educational skills concept of Ishihara (2000, pp.110)

As mentioned earlier, one method for capturing license-out candidates is through the warning of possible infringement, but careful selection of these candidates is still needed. The best approach will likely to be to focus on companies developing business overseas, listed companies and newly privatized high-tech firms, all of which have been becoming more aware of the importance of intellectual properties. The main reason for focusing on these companies is because of the importance that must be placed on preventing the leaking of information from the know-how licensee. Additionally, it will probably also be better to focus on companies that are not aggressively investing in research and development (marketing-oriented companies). The ability to absorb technologies is needed to fully harness the effects derived from the spread of technologies. However, the R&D-oriented companies that make efforts to absorb technologies are much more likely to develop into competitors of the licenser.

3. Suggestions for Risk Management

Conventionally companies that develop new technologies have tried to safeguard their discoveries either by applying for patents or simply keeping the technologies secret. These companies were careful to not let any information on the technologies leak out at least until they can gain enough profit to cover their initial investment. However, despite the best efforts of these companies, information about their products and technologies can be leaked to the outside through a host of different routes [110]. It is almost impossible to completely safeguard any because of the research spillovers (Watanabe, Miyazaki, Katsumoto, 1998, pp.248-250).

Technical information and knowledge are fluid by nature. However, the know-how licenses in China up until now have in most cases burdened the foreign firms with disadvantageous regulations and the need for government approval. Therefore, the foreign companies were well aware of the possibility of the information being leaked and so resigned themselves to the fact that license agreements were essentially a transfer of the information. This type of national policy model lacks sufficient incentives to encourage research and development. Therefore, technology and information flow through the joint venture partners, local engineers and others. This is why it is so easy to make products that infringe upon rights held by others.

Now that China joined the WTO, the focus of risk management should be placed on deterring the technology spillovers, even if only slightly, through the protection of intellectual property rights.

In order to protect certain information as know-how in China, it is important to keep in mind that the same basic conditions as with the related Japanese regulations apply. Namely, the information itself must have confidentiality, it must have practicality and the holder of the information must take appropriate steps to keep the information secret. The following section will examine measures for subsidiaries in China.

It can generally be said that most cases of know-how being leaked outside of the company involve current or former employees (Fujikawa, 2002, pp.62). One of the main reasons behind these outflows of technologies and information in China is the fact that the Japanese companies do not have many "full-time" (Full-time) Chinese employees (or in other words, the Japanese companies are unable to dispatch enough "proper employees" that can speak Chinese) and so they must employ local engineers and entrust them with the management of the know-how.

A practical remedy to this problem is to establish control methods preventing the leaking of know-how to third parties, and make these methods well understood within the company. A corporation must deal with a wide variety of information and so the positioning of know-how within an information protection system is probably a difficult task. The basic point is to clarify what technologies need to be protected as being confidential.

A management system should focus mainly on

110 In many cases the time from when a company decides to develop a new product until that information is leaked to a competitor is less than one year. In the case of a developed process, this time period is a little longer (Watanabe, Miyazaki, Katsumoto, 1998, pp.249-250).

the management of documents. Egami (2001, pp.74-80) indicated that the minimum control system could probably be achieved provided that there is a document management system in accordance with the document management provisional regulations put forth by the company with foreign capital ties. The document control must have the basic controls such as (1) use of markings such as "Confidential" and "Internal Use Only", and (2) restrictions on viewing the materials and safekeeping in locked storage areas. [111]

Directors and employees need to sign written pledges to protect the confidentiality. It will be important to stress that charges can be filed against those that break this agreement. This pledge is not simply a formality when entering into an employment contract, but must also cover the return of confidential documents when the employee leaves the company. It will also be important to have employees leaving the company under contractual agreement [112] to not work for competing firms.

As mentioned earlier, controls are needed not only to prevent the leaking of your company's technologies and information to others, but to also insure that your company does not infringe upon the know-how of other companies. [113]

For example, in the case of a license-in agreement, technical information is brought about within the company along with confidentiality obligations and application restrictions. However, the license technology information must also be managed to ensure that the information does not exceed the conditions of the contract and become integrated in projects being developed within the company.[114] In short, there needs to be rules for the handling of technologies and know-how, belonging both to your own company and other companies, in accordance with the basic principles of corporate behavior. A person in charge of this management should be set up at each worksite and employees should be educated on following these rules with the use of manuals. This is the ideal approach.

The U.S. Department of State and the Overseas Security Advisory Council have released guidelines for protecting confidential corporate information [115]. These guidelines have indicated many important points. One point is that before attempting to apply the necessary safety standards for protecting information, the employees must fully understand why these standards are necessary and what benefits they bring to the company and employees. Another important point is to create loyalty and stronger security by treating all of the employees equally and by providing them with appropriate salaries. These are no easy policies for solving the problem of information being leaked, but they are useful, commonsense approaches. In other words, there is the possibility of success provided that it is clearly indicated to the employees the relationship between confidential information and their salaries, bonuses and future employment.

The key point for preventing the leaking of technology and know-how is the handling of employees. In Japan company C has been using patents and know-how to the greatest extent possible in both its defensive and offensive strategies. This

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111 Sun (1996, pp.12)

112 The "duty to avoid competitive businesses" means that the employee cannot engage in business that competes with the business of the company, either for their own sake or for another party. There have been some complaints that this obligation infringes on a person's freedom in selecting employment after leaving a company and so normally this obligation after an employee leaves the company will apply to certain time and location conditions. (Fujikawa, 2002, pp.62)

113 There are cases in which the validity of contracts that impose unnecessary disadvantages on the person leaving the company will not be recognized as they infringe on the freedom of the ex-employee in selecting new employment (Sun, 2001, pp.49-50). Article 14 of the Shanghai Labor Contract (rough draft) has adopted a clause that states that the "duty to avoid competitive businesses" cannot extend beyond three years after the person has left the company (Hiroshi Akiyama "Obligations to Protect Corporate Secrets After Contract Completion", (The Japanese Institute of International Business Law "International Business Laws", Vol.30, No.3, 2002, pp.408)

114 Hitachi, Ltd. (1995, pp.261) regarding license-in.

115 US Department of State, Overseas Security Measures Council (2000) "Information Management Guideline" (translated by Japan Overseas Enterprises Association, 2000). This document explains how to raise the general awareness level and take appropriate measures in order to protect information and counter the threat of information being leaked.

company established from the earliest stages a "special qualification system" to foster specialists[116], provide those specialists with preferential treatment and make full use of their expertise. The development and utilization of specialists is at the base of good management, and the preferential treatment for these specialists is linked to the protection of technology and information.

Until now the contents of license contracts with Chinese companies, including the license fees, had to get final approval from the government authorities and this has restricted the free setting of prices between companies. This is why the transfer price tax system surrounding intellectual properties has not become a problem in China. However, the regulations governing licenses in China are being relaxed and there is the possibility of greater freedom in setting prices between parent and subsidiary companies[117]. As such, more attention will likely be focused on the transfer price tax system.[118] Consideration will need to be given to this point when trying to secure appropriate prices from the subsidiaries.

This section will discuss some of the measures for local Chinese corporations.

There needs to be proper monitoring of licensees. The licensee must be obligated to keep the records needed for accurately calculating royalties. These records should include the production amounts for the licensed products, total sales amounts, sales prices, final net sales prices and total royalties. The right to examine these records must be obtained so that inspections can be made to verify that the contents of the royalty reports are accurate (Yamada, 2002, pp.132-133). Various other precautions in addition to these basic items will also be needed. Such precautions include monitoring of the licensee's business conditions, the reception of reports from the licensees on improved discoveries and technologies, and monitoring to ensure that the know-how targeted by the license is not infringed upon by a third party (Japan Institute of Invention and Innovation, 2000, pp.88).

Other important measures include having the licensee limit the number of employees that have access to the provided know-how, have the licensee adopt a control system described in the Chinese subsidiary's articles, and the monitoring of these points.

The inspections and monitoring of the licensee should not be entrusted to certified public accountant or some other third party, rather it should be performed by the company providing the license.

This final section will touch on some of the legal options available to the licenser when someone infringes upon their know-how. As mentioned earlier, there are basically two approaches: processing by an administrative agency and legal proceedings through the court system. With the former the Control Agency of Commerce, Industry and Administration can be used to implement safe guards such as the seizure of blueprints and other documents and the halting of sales of the product in question[119]. Administrative punishments can also be imposed[120]. With the latter option a civil complaint can be filed with the courts and the payment of damages can be requested.[121] Criminal punishments can also be requested.[122]

In order for the holder of the rights to demand that damages be paid, a suit must first be filed with the courts. However, the damages paid are usually rather small because it is very difficult to clearly prove the size of the damage that was inflicted. The real problem with disputes and lawsuits involving know-how is that, unlike with trademarks and designs, it is very difficult to provide proof that information was leaked to a third party (Yamamoto, 1998, pp.34). In China the collecting of evidence to prove such claims

116 Ohya (1994, pp.189-191, 207-212)

117 However, there is the possibility that some government guidelines will remain in place such as limiting running royalties to 5% of sales and limiting lump-sum payments to 20% of the projected net profit for the product in the contract.

118 Japan Intellectual Property Association License Committee "License Contracts and Transfer Price Tax System" (JIPA journal "Chizai Kanri", Vol.50 No.6, 2000) pp.798

119 Based on "Minor Regulations for Preventing Infringement on Chinese Commercial Secrets".

120 Based on Article 25 of the Unfair Competition Prevention Law.

121 Based on Article 20 of the Unfair Competition Prevention Law.

122 Based on Article 219 of the Chinese Criminal Law.

is rather difficult and the holder of the rights are not provided with enough financial support to pursue their claims.

In cases where the product infringement involves the flow of the company's sensitive information in not only China, but the U.S. as well, the prudent strategy would likely be to file the complaint with the U.S. courts, as they tend to give greater priority to the holder of the rights than the Chinese courts[123]. In the U.S. legal system a party that intentionally infringes on the rights of another party may be ordered to pay damages exceeding the actual damages caused by the infringement. In this manner some financial support is provided to the holder of the rights.

In terms of protecting against the risk of production technologies being leaked, the best method will probably be to apply for patents on such know-how as the purity of the raw materials and catalyst production technologies[124]. There are various other methods for holding onto technologies and preventing the copying of your products, in addition to the protection offered by intellectual property and other rights. For example, obstacles to entering the same field can be created by establishing a brand image and insuring that large-scale equipment investments will be needed by any competitor. Another method is to continuously introduce new products and methods to the market at such a pace that other companies cannot keep up.[125]

Conclusion

Until now know-how licenses with China were almost seen as a simple transfer of information with the resignation that there would more than likely be leakage of the information. This was due to the disadvantageous regulations and government approval placed on foreign capital. It can be said that these national policies lacked incentives for research and development. However, China has made some significant changes to this basic system though new technology import / export control acts corresponding to China's WTO membership, as well as the enactment of new regulations by the related departments (January 2002). These are all major developments from the viewpoint of the international licensing business.

The license-out arrangements by Japanese businesses cannot be separated from "producing things". This is of course tied to direct investment, but consideration must also be given to securing local supply bases through OEM that aims to standardize the technologies on the market and bring the most suitable technologies to the market. When looking towards the Chinese market as a sales region and for other strategic considerations, it is assumed that a legal system is now in place that makes it much easier to effectively incorporate licenses into a market strategy.

Chinese companies looking to expand their operations overseas, publicly traded companies and newly privatized companies are starting to realize the importance of patents and know-how and so can be assumed to be good targets for license-out agreements. From the perspectives of absorbing and spreading technologies, it is believed that companies that are not aggressively investing in research and development (marketing-oriented companies) would likely be the better choice. In terms of direct investment, Japanese corporations must reorganize their Chinese business portfolios, select Chinese subsidiaries (joint ventures, wholly owned companies) that need to raise their market power through capital increases and other means, and then through this build an appropriate mechanism by which stable license fees can be obtained.

Technical information and knowledge are indeed fluid by nature. However, now that China has joined the WTO, the focus of risk management should be

123 Japanese company D, which holds basic patents for a DVD (digital versatile disc) player, filed a complaint in U.S. Federal court against an American company that was importing and selling a Chinese-brand DVD player that had infringed upon the Japanese company's patents. The complaint request that the import and sales of these devices be halted. The defendant in the case eventually settled the matter by entering into a license contract with the Japanese company. ("Nihon Keizai Shimbun", April 12, 2002 morning edition, page 11)

124 April 10, 2002 morning edition of the Nihon Keizai Shimbun (page 7) reported on trends in patent requests for know-how.

125 Watanabe, Miyazaki, Katsumoto (1998, pp.287)

placed on deterring unintended technology spillovers, even if only slightly, through the protection of intellectual property rights. Specifically, some important basic steps should be securely taken such as staff education and document management in accordance with the company's own information protection framework.

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