United States General Accounting Office

GAO

Report to the Honorable
John D. Rockefeller IV and the Honorable
Dennis DeConcini, U.S. Senate

July 1993

# INTELLECTUAL PROPERTY RIGHTS

# U.S. Companies' Patent Experiences in Japan



GAO/GGD-93-126

GAO

**United States**
**General Accounting Office**
**Washington, D.C. 20548**

**General Government Division**

B-253454

July 12, 1993

The Honorable John D. Rockefeller IV
United States Senate

The Honorable Dennis DeConcini
United States Senate

As you requested, we examined patent protection for U.S. products in Japan as compared with that in the United States and Europe. We also examined U.S. companies' views on whether harmonization would improve their patent experience in Japan, and progress in working toward greater international patent harmonization.

Copies are being sent to the Secretaries of Commerce, State, and the Treasury; the U.S. Trade Representative; and other interested congressional committees. Copies will also be made available to others on request.

Please contact me at (202) 512-4812 if you or your staff have any questions concerning this report. Other major contributors to this report are listed in appendix II.

Allan I. Mendelowitz, Director
International Trade, Finance, and
Competitiveness

# Executive Summary

## Purpose

In recent years, a number of U.S. companies have reported significant difficulties in obtaining adequate and effective protection for their patents in Japan. Some of these firms have asserted that their Japanese competitors use the Japanese patent system as a weapon against foreign firms to appropriate their technologies. Since 1989, Japan has been on a U.S. Trade Representative watch list of countries that have inadequate protection for intellectual property, partly because of reported problems with its patent system.

Senators John D. Rockefeller IV and Dennis DeConcini, and former Senator Lloyd Bentsen, asked that GAO review patent protection for U.S. products in Japan as compared with that in the United States and Europe. Specifically, GAO examined (1) U.S. companies' experiences in obtaining patents in Japan as compared with those in the United States and Europe; (2) the sources of U.S. companies' patent problems in Japan and recent changes in the Japanese patent system; (3) practices that may affect U.S. companies' patent experiences in Japan; (4) U.S. companies' experiences in enforcing patents in Japan as compared with those in the two other jurisdictions; and (5) progress toward greater international patent harmonization and U.S. firms' views on whether harmonization would improve their patent experience in Japan.

## Background

There are significant differences between the U.S. patent system and those of other countries, including Japan. The United States, for example, is the only developed country in the world that awards patents to the first inventor regardless of when the patent application is filed. Moreover, U.S. patent applications are kept secret until a patent is granted. Japan, like most developed countries, awards patents to the first inventor to file an application and publishes all patent applications 18 months after they are filed.

GAO surveyed 346 U.S. firms that were top patent holders in selected sectors regarding their experience in obtaining patents in Japan as compared with that in the United States and Europe. Over 90 percent of the 300 responding firms had filed patent applications in Japan in the past 5 years, and two-thirds held 10 or more Japanese patents. The majority of the companies were large, with almost 60 percent reporting annual sales of over $1 billion. Ninety percent were U.S. companies or subsidiaries of U.S. companies, while 10 percent were U.S. subsidiaries of foreign firms.

## Results in Brief

More than three times as many of the companies responding to the GAO survey were dissatisfied with their overall patent experience in Japan as compared with that in the United States and Europe. Further, 65 percent reported at least one major problem in obtaining patents in Japan, while 25 percent reported at least one major problem in Europe and 17 percent in the United States. The problems most frequently cited in obtaining Japanese patents were the length of time involved, the cost, the scope of the patent protection granted, and the difficulty in obtaining patents for pioneering inventions (those involving important new technologies). Only 6 percent of the companies, however, said that patent problems in Japan had a serious adverse effect on their company.

Both the administration of the Japanese patent process and inherent differences in the U.S. and Japanese patent systems are posing problems for U.S. firms. Many of the difficulties are due to delays in patent issuance in Japan and the narrower scope of patent protection granted. The Japanese Patent Office has recently adopted some measures to improve the patent system, however.

Another source of U.S. companies' patent problems in Japan may be their own patent practices. Both U.S. and Japanese patent attorneys told GAO that some of the problems encountered by U.S. firms are due to their lack of understanding of the Japanese patent system, translation difficulties, and poor communication between U.S. companies and their Japanese patent representatives. Some companies have adopted strategies for dealing with these problems. For example, some companies have improved their patent experience in Japan by tailoring the applications they file to better conform to the Japanese application style.

Several of the U.S. firms GAO interviewed also reported problems in enforcing their patents in Japan. Some of these difficulties stem from differences in U.S. and Japanese substantive law and civil procedure. For example, the Japanese courts interpret patent claims more narrowly than those in the United States.

Currently, multilateral efforts are under way to harmonize international patent procedures through the World Intellectual Property Organization, an agency of the United Nations. If a harmonization treaty is enacted, it could lead to significant changes in both the Japanese and U.S. patent systems. The proposed changes in the Japanese patent system under harmonization address many of the concerns raised by U.S. companies regarding patent protection in Japan. About two-thirds of the companies

responding to the GAO survey also supported changes in the U.S. patent system that would align the U.S. system more closely with those of other countries.

# Principal Findings

## U.S. Firms Are More Dissatisfied With the Japanese Patent System

Thirty-nine percent of the U.S. companies responding to the GAO survey that had filed for patents in Japan were dissatisfied with their overall experience in obtaining patents, while 13 percent were dissatisfied with their patent experience in the United States, and 3 percent with that in Europe. These results indicate that U.S. companies were not necessarily partial to the U.S. Patent and Trademark Office, since the responding companies were generally more satisfied with their overall patent experience in Europe than in the United States.

Forty-four percent of the companies said that it was more difficult to obtain patents for pioneering inventions in Japan than in the United States or Europe, while only 3 percent said it was less difficult in Japan; virtually all of the other companies said they were "not sure." Twenty-one percent believed that they had been treated differently than Japanese applicants by the Japanese Patent Office.

Although many companies said they were dissatisfied with their overall experience in obtaining patents in Japan, only 6 percent said that these problems had adversely affected their firm to a great extent. GAO conducted follow-up interviews with several companies to ask why they had reported significant patent problems in Japan but had said that these problems had not caused adverse impacts. Some corporate officials noted that it is difficult to isolate the effect of patent problems in Japan from other problems their firms face in trying to penetrate the Japanese market. They noted that they currently had few or no sales in Japan, and therefore, patent problems had not yet had any severe consequences.

## Sources of U.S. Company Patent Problems in Japan

Most of the patent problems that U.S. firms have reported in Japan relate to the long pendency period in Japan and the limited scope of protection that their inventions have received. It takes about 6 to 7 years for a typical patent to be issued in Japan compared with about 19 months in the United States. The longer pendency period in Japan is due to several factors,

including the pre-grant opposition system, which allows rival companies to raise objections to a proposed patent before it is granted. Another problem leading to delays includes the fact that the Japanese Patent Office receives twice as many patent applications per year as its U.S. counterpart, while employing far fewer patent examiners. Further, several Japanese patent attorneys said that the scope of patent protection granted by the Japanese Patent Office is narrower than that granted by the U.S. Patent and Trademark Office.

The Japanese Patent Office has recently introduced accelerated examination procedures, allowed multiple claims within one application, and encouraged Japanese companies to reduce the number of patents they file. Japan has also reduced patent pendency time by several months and has hired a small number of additional patent examiners.

## U.S. Company Practices May Affect Their Patent Experience in Japan

Other factors also contribute to some U.S. companies' patent difficulties in Japan. According to both U.S. and Japanese patent attorneys, some problems are attributable to U.S. firms' patent practices in Japan as well as poor communication between U.S. firms and their Japanese patent representatives. For example, some U.S. companies do not fully understand the Japanese system or make sufficient efforts to work with and oversee their Japanese patent representatives. Further, Japanese patent attorneys told GAO that many of their U.S. clients do not give them sufficient time to translate their applications accurately into Japanese. On the other hand, some U.S. companies complained that their Japanese patent attorneys are not sufficiently aggressive in representing their interests before the Japanese Patent Office.

Some U.S. companies have improved their patent experience in Japan by translating their Japanese applications back into English to ensure their accuracy, by establishing a patent office in Japan, and by tailoring the applications they file in Japan to better conform to the Japanese application style.

## U.S. Firms Had Problems With Patent Enforcement in Japan

According to U.S. and Japanese patent experts, the Japanese legal system poses difficulties for a plaintiff in a patent infringement case that do not exist in the United States. There are many problems in bringing infringement actions in Japan, including the lack of discovery procedures, the length of court proceedings, the courts' narrow interpretation of patent claims, and the adverse Japanese attitude toward litigation. According to

U.S. patent attorneys, these difficulties make it harder for a patent holder to enforce a patent in Japan than in the United States. Several of the 14 firms GAO interviewed that had filed patent infringement suits in Japan said that the difficulties they had had in enforcing their patents in Japan had adversely affected their companies.

## Proposed Changes Under Harmonization May Address U.S. Companies' Concerns

The United States is currently involved in two sets of multilateral negotiations on intellectual property rights that may lead to significant changes in the Japanese patent system and the U.S. patent system: a patent harmonization treaty through the World Intellectual Property Organization; and the Uruguay Round of the General Agreement on Tariffs and Trade, which includes negotiations on intellectual property issues.

The Japanese Patent Office is considering making major revisions in its system within the context of a patent harmonization treaty, including allowing patent filing in an applicant's native language. A majority of companies responding to the GAO survey said that most of these changes would greatly improve their patent experience in Japan. About two-thirds of the companies also support fundamental changes in the U.S. patent system pursuant to harmonization, such as (1) the adoption of a system in which the first inventor to file an application is entitled to receive the patent and (2) the publication of all patent applications after 18 to 24 months. However, many companies told GAO they would not support changes in the U.S. patent system unless Japan agreed to make significant changes in its patent system under harmonization.

## Recommendations

This report contains no recommendations.

## Agency Comments

In commenting on portions of the draft report, the U.S. Patent and Trademark Office and the European Patent Office generally agreed with the information presented. The Japanese Patent Office provided some technical comments that GAO considered in preparing this report. In addition, GAO received comments from patent attorneys from these jurisdictions as well as verification from appropriate companies that specific examples presented in this report accurately represent their views of their experiences.

# Contents

# Figures



## Abbreviations

| | |
|---|---|
| CAFC | Court of Appeals for the Federal Circuit |
| EPO | European Patent Office |
| GAO | General Accounting Office |
| GATT | General Agreement on Tariffs and Trade |
| JPO | Japanese Patent Office |
| MITI | Ministry of International Trade and Industry |
| SII | Strategic Impediments Initiative |
| TRIPS | Trade-Related Aspects of Intellectual Property Rights |
| U.S. PTO | U.S. Patent and Trademark Office |
| USTR | United States Trade Representative |
| WIPO | World Intellectual Property Organization |

# Introduction

Patents are one of the primary forms of intellectual property protection in worldwide use. There are fundamental differences between the U.S. patent system and those of other countries, including Japan. For example, among the developed countries in the world, the United States is the only one that awards patents to the first inventor regardless of when he or she files a patent application. Further, U.S. patent applications are kept secret until a patent is granted. Like most developed countries, Japan awards patents to the first inventor who files an application. Also, 18 months after a patent application is filed, Japan publishes the application.

According to U.S. and Japanese patent attorneys, patents are perceived and used differently in the United States than in Japan. In the United States, many patent experts assert that the focus of the patent system is to protect individual patentees and provide them with exclusive rights to their inventions. By contrast, many experts contend that the focus of the Japanese patent system is to promote industrial development by disseminating technology.

In recent years, some U.S. companies have complained about difficulties in obtaining adequate and effective patent protection in Japan. Since 1989, Japan has been on a U.S. Trade Representative (USTR) watch list of countries that lack adequate protection for intellectual property.

## Importance of Patents

A patent is the grant of a property right issued by a national government or an international intergovernmental authority for an invention.[1] Inventions covered by patents typically include products as well as processes for making or using new or existing products. While the nature of patent rights varies by country, a patent typically gives an inventor the right to exclude others from commercially making, using, or selling the invention during the patent term. Patents encourage the introduction of innovative products and technologies to the public by guaranteeing their owners a limited exclusive right to whatever economic reward the market may provide. Any violation of the right is considered an infringement.

Patent protection is most important for industries with products that are easy to duplicate, have long product life cycles, and have high front-end research and development costs. Several studies have shown that patents are most important for chemical, pharmaceutical, and biotechnology products and generally not as important for primary metals, electrical

[1]The other major forms of intellectual property rights are trademarks, copyrights, and trade secrets.

equipment, instruments, office equipment, automobiles, rubber, and textiles.

Strengthening protection for intellectual property rights, including patents, emerged in the 1980s as one of the more important international trade issues for the United States. Before then, the U.S. government viewed protection of such rights largely as a technical matter and not as a trade policy issue broadly affecting U.S. competitiveness. The recent increase in concern over inadequate protection of intellectual property rights abroad stems in part from the perceived decline in U.S. competitiveness in several key high-technology sectors and the economic development of Japan and several newly industrialized countries. Some U.S. industries maintain that the inability to obtain strong protection for their intellectual property overseas has contributed to this decline. U.S. interest in strengthening intellectual property protection is not surprising since the United States is a world leader in inventing new technologies.

## U.S., Japanese, and European Patent Systems

The three major patent systems in the world today are those of the United States, Japan, and Europe. In the United States, the patent system is administered by the U.S. Patent and Trademark Office (PTO) within the Department of Commerce. In Japan, it is administered by the Japanese Patent Office (JPO) within the Ministry of International Trade and Industry.

In Europe, patents can either be obtained through national patent offices in individual European countries or through a centralized organization known as the European Patent Office (EPO). EPO, founded in 1977 under the European Patent Convention, issues "European patents" that are valid in up to 17 European countries on the basis of a single application and an examination procedure using uniform standards.[2] Applicants can designate in which of the 17 countries they would like to obtain patent protection. A European patent gives its holder the same rights in the countries designated as does a national patent. Patent enforcement matters are governed by national law and are under the jurisdiction of national courts. For convenience, European and foreign companies are increasingly filing in Europe through EPO rather than in individual countries. According to an EPO official, about half of U.S. applicants file in Europe through EPO.

[2]EPO member states are Austria, Belgium, Switzerland, Germany, Denmark, Spain, France, the United Kingdom, Greece, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, the Netherlands, Portugal, and Sweden.

The United States, Japan, and most European countries are parties to the Paris Convention for the Protection of Industrial Property.[3] The convention allows foreign applicants to file their patent applications in member countries up to 12 months after first filing in their country of origin, while retaining their claim to novelty. U.S. firms, thus, have 1 year after filing a U.S. application to file in Europe or Japan.

## Differences Between U.S. and Foreign Patent Systems

The U.S. patent system varies widely from that of other countries. The United States, for example, is the only developed country that uses a "first-to-invent system." Under this system, when there are two or more applicants for the same invention, the applicant who legally establishes the earliest invention date will receive the patent.[4] Table 1.1 highlights the major differences between the U.S., European, and Japanese patent systems.

[3]In 1883, 11 countries established the International Union for the Protection of Industrial Property by signing the Paris Convention. As of 1993, 108 countries were party to the convention. The convention requires each contracting country to grant the same protection to nationals of other contracting countries as it grants to its own nationals.

[4]When two or more persons are claiming substantially the same invention, U.S. PTO initiates a proceeding to determine priority among the inventors. This proceeding is termed an "interference." The party that U.S. PTO finds has made the invention first based on a number of factors will be awarded the patent. Interference proceedings are fairly rare in the United States, affecting substantially fewer than 1 percent of the total applications filed each year. Further, less than one-tenth of 1 percent of all patents are awarded to someone other than the first to file.

**Table 1.1: Major Differences Between the U.S., Japanese, and European Patent Systems**

| Patent systems' features | United States (U.S. PTO) | Japan (JPO) | Europe (EPO) |
|---|---|---|---|
| Patents granted on the basis of first-to-file? | No | Yes | Yes |
| Filing permitted in any language? | Yes | No | No, but accepts languages of countries that are party to the European Patent Convention |
| Are patent applications published? | No, kept secret until patent is granted | Yes, 18 months after filing | Yes, 18 months after filing |
| Can patent examination be deferred? | No | Yes, for 7 years | Yes, for 6 months after 18-month publication |
| Is there an opposition system? | No, but other parties can request reexamination | Yes, before patent is granted | Yes, after patent is granted |
| Patent term | 17 years from patent issuance | 15 years from date of publication for purposes of opposition, but not more than 20 years from filing | 20 years from filing |
| Grace period (amount of time inventors have to file patent applications after their inventions have been made public) | 1 year with no restrictions on disclosure by inventor | 6 months with restricted disclosure permitted | 6 months with restricted disclosure permitted |

Source: Data provided by U.S. PTO, JPO, and EPO.

Japan's patent system was originally patterned after Germany's, and is fairly similar to the system used by EPO. One feature of the Japanese system that is different from that in the United States and Europe is that U.S. PTO and EPO allow applications to be filed in different languages, whereas JPO accepts applications only in Japanese. U.S. PTO will accept applications in any language, but an English version must be submitted within 2 months. EPO will accept applications in languages of the countries that are party to the European Patent Convention, but a translation must subsequently be submitted in English, French, or German. In EPO, the language of the proceedings, i.e., English, French, or German, is referred to in the case of any patent disputes, including infringement suits. In U.S. PTO, the original language version is referred to in the case of any disputes.

Another difference between the U.S. patent system and that in Japan and Europe involves patent examination. Unlike the United States, JPO and EPO examine applications only upon request; in Europe, an applicant has 6 months after publication of the search report[5] to request an examination, and in Japan he or she has 7 years from filing. Failure to request an

[5]A search report is a listing of all the prior art that an examiner has found that is relevant to the invention under consideration.

examination results in the application's being deemed withdrawn. (The reasons that applicants may decide not to request examination are discussed in ch. 4.) U.S. PTO, by contrast, examines all patent applications automatically.

In addition, JPO and EPO both have "opposition systems" whereby third parties can oppose the granting of a patent on specific grounds. In Japan, however, applications can be opposed before a patent is granted, whereas in EPO they can only be opposed during a 9-month period after they are granted. The United States does not have an "opposition system" per se. However, it has a limited reexamination procedure whereby parties can request that U.S. PTO reexamine patents after they are granted to determine their validity.

The term of a patent, i.e., the duration of patent protection, is also different in the United States than it is in Japan and Europe. In the United States, the patent term does not begin until the patent is granted, and then it extends for 17 years. Patents issued by JPO are valid for 15 years from the date the application is published for opposition[6] (which occurs after JPO has completed its examination of the patent application), but not more than 20 years from the date when the application was filed. Patents issued by EPO are valid for 20 years from the filing date.

Another difference between the U.S. patent system and that in Japan and Europe involves the "grace period," which is a fixed period of time immediately preceding the filing of a patent application during which certain disclosures of the invention to the public are permitted without prejudicing the patentability of the invention. In the United States, inventors have a grace period of 1 year in which to file an application after they have disclosed their invention to the public, with no restrictions on the ways they may disclose their inventions. JPO and EPO have a grace period of 6 months, but only certain types of disclosures are allowed without loss of the right to a patent.

Currently, multilateral efforts are taking place to harmonize international patent procedures and aspects of substantive law through an agency of the United Nations—the World Intellectual Property Organization. If a harmonization treaty is enacted, it would cause significant changes in the U.S. and Japanese patent systems, and, to a lesser extent, in the European system. (See ch. 6 for more information on patent harmonization efforts.)

[6]Within 3 months from the publication date, an opponent may lodge an opposition to the patent application, citing objections regarding the substance of the invention.

## The Patent Examination Process in the Three Systems

While there are major variations among the patent systems in the United States, Europe, and Japan, the patent examination process is fairly similar in the three jurisdictions. The merits of a patent application are decided during the examination. After an application is submitted to the patent offices in these regimes (and after an examination is requested in Europe and Japan), it is assigned to an examiner with expertise in the subject area of the application. The examiner reviews the application and compares it with the "prior art," the body of relevant information, including patent and nonpatent literature.[7] The examiner then reaches a preliminary decision on the patentability of the proposed invention.

An "office action" notifies the applicant of the examiner's decision. It states reasons for any adverse decision, objection, or requirement and provides information that may assist the applicant in judging whether to pursue the application. If the invention is not considered patentable, the claims will be rejected. (The claims define the scope of protection requested by the inventor.) Some or all of the claims may be rejected on the first action by the examiner;[8] relatively few applications result in patents as originally filed. In all three jurisdictions, applicants have the right to appeal the rejected claims.

## Cultural Differences Between the U.S. and Japanese Patent Systems

According to U.S. and Japanese patent attorneys, there are significant differences in the way patents are perceived and used in the United States and Japan, with the European system being somewhere between the two. The United States, many patent experts assert, seeks to foster technology development by protecting individual patentees and granting them exclusive rights to their inventions. The policy of U.S. patent law is that anyone who has invested time and labor in developing a patentable product or process should have the right to exclude others completely from the enjoyment of his or her invention. This belief is apparent from several features of the U.S. system. For example, U.S. applicants do not have to disclose their inventions to the public until a patent is granted; if they do not receive a patent, they can choose to keep their inventions secret. The first-to-invent principle also reflects the U.S. attitude that the first inventor is entitled to the patent, not the inventor who is the most expeditious filer of an application.

[7]Products and/or processes are generally considered patentable in the United States if they are new, useful, and not obvious to one skilled in the art.

[8]In some cases, inventors may file multiple claims for the same invention because they are seeking protection for different aspects and/or uses of the invention.

By contrast, patent experts contend that the Japanese patent system seeks to promote technology development by disseminating technology, rather than rewarding inventors with exclusive rights. Various features of the Japanese system, such as the provisions for 18-month publication, 7-year deferred examination, and pre-grant oppositions, foster this goal. These provisions serve to make innovations available to industry before exclusive rights are granted, enabling industry to learn from the technology and make further innovations. Another feature of the Japanese system that reflects its promotion of industrial development is that Japan provides for compulsory licensing of patented inventions if a second patent improves on the original patented invention.

## Current Concerns About Japan's Patent System

In recent years, some U.S. companies have expressed concern about difficulties in obtaining and enforcing patents in Japan. For example, at Senate hearings on the Japanese patent system in 1988 and 1989, several U.S. companies identified aspects of the Japanese patent system that were problematic for them, particularly delays in obtaining patents and the narrow scope of patent protection granted. They also complained about "patent flooding" by Japanese industry (filing excessive numbers of applications claiming minor technical improvements) resulting in pressure on U.S. companies to license their technology to Japanese competitors. Since 1989, USTR has placed Japan on a watch list of countries with inadequate protection for intellectual property, partly because of the reported problems with its patent system.[9]

## Objectives, Scope, and Methodology

At the request of Senators John D. Rockefeller IV and Dennis DeConcini, and former Senator Lloyd Bentsen, we reviewed patent protection for U.S. products in Japan as compared with that in the United States and Europe. Specifically, we examined (1) U.S. companies' experiences in obtaining patents in Japan as compared with those in the United States and Europe; (2) the sources of U.S. companies' patent problems in Japan and recent changes in the Japanese patent system; (3) practices that may affect U.S. companies' patent experiences in Japan; (4) U.S. companies' experiences in enforcing patents in Japan as compared with those in the two other jurisdictions; and (5) progress toward greater international patent harmonization and U.S. firms' views on whether harmonization would improve their patent experience in Japan.

[9]Japan was also placed on the USTR's watch list because of perceived problems with its protection of copyrights and trademarks. The watch list was authorized under the "special 301" provision of the Omnibus Trade and Competitiveness Act of 1988, Public Law 100-418, 102 Stat. 1377.

To obtain information on U.S. firms' patent experience in the United States, Europe, and Japan and their views on international patent harmonization efforts, we sent a mail survey to 346 U.S.-based companies. The survey was sent out in late August 1992, and follow-up mailings were made through December 1992. We received responses from 300 of the companies, for an 87-percent response rate. (A copy of the mail questionnaire and the overall responses for each question is in app. I.) We subsequently telephoned more than 20 of the companies surveyed to obtain additional information on or clarification of their responses.

We surveyed companies that were top U.S. patent holders (in terms of the number of patents held) in three sectors—chemicals, semiconductors, and biotechnology. These sectors were selected because they (1) are considered ones in which U.S. and Japanese companies have a strong presence; (2) are ones to which patents are considered important; and (3) are inclusive of one mature industry—chemicals; one of intermediate maturity—semiconductors; and one emerging industry—biotechnology.

Since there was no information available on leading patent holders in Japan, we surveyed top U.S. patent holders, a universe that included over 90 percent of U.S. companies that were among the top 200 patent holders in the United States in 1991. The universe included only companies with U.S. addresses; however, it included several U.S. subsidiaries of foreign companies. We did not include universities or other nonprofit organizations in the survey universe. The survey results are based on responses from companies that had filed for patents in Japan in the past 10 years—a group that included 92 percent of the survey respondents.

In addition to the mail survey, we conducted interviews with 58 U.S. companies that were patent holders in the selected sectors to obtain detailed information about their patent strategy and experience in Japan as compared with that in the United States and Europe.[10] Thirty-five of these companies were among the top 20 U.S. patent holders in at least one of the three sectors, accounting for about two-thirds of top patent holders in these three sectors. These interviews were conducted between June and September 1992.

To obtain information on the U.S., European, and Japanese patent systems, we interviewed more than 40 patent attorneys in private practice as well as several academics and officials from various trade and intellectual property associations. In addition, we obtained information on the three

[10]Fifty-seven of the 58 companies were included in our mail survey.

patent systems and on negotiations over international patent harmonization from officials at the U.S. Patent and Trademark Office, the Department of Commerce, and the Office of the U.S. Trade Representative. We also reviewed numerous academic and legal articles on patents and comparative patent systems. Information in this report concerning European and Japanese law does not reflect original analysis on our part but is based on discussions with patent attorneys and other secondary sources.

In Europe, we discussed the ongoing multilateral negotiations on intellectual property rights with officials from the World Intellectual Property Organization (WIPO); the Permanent Missions of Japan, Canada, and the European Community to the International Organizations in Geneva; and the General Agreement on Tariffs and Trade (GATT). We also discussed these negotiations with officials at the Commission of the European Communities and the German Ministry of Justice. In addition, we met with officials from six European industry and intellectual property associations to obtain their views on multilateral patent negotiations and on patent protection in the United States, Europe, and Japan.

In Germany, we also met with officials from the European Patent Office and the German Patent Office to discuss patent procedures in these regimes and to obtain their views on patent harmonization efforts. To obtain information on European firms' patent experience in Japan as compared with that in the United States and Europe, we met with patent attorneys from nine European companies and obtained written information from two others. All of these companies were among the top eight European patent holders in the United States in the selected sectors.

In Japan, we met with officials from the Japanese Patent Office to discuss Japanese patent procedures and proposed changes in their system as well as changes that have recently been adopted. We also discussed U.S. company complaints about the Japanese patent system and obtained JPO views on the reasons why U.S. companies may be experiencing problems. In addition, we met with representatives from six Japanese patent firms that file patents for U.S. companies in Japan. Our purpose was to discuss their U.S. clients' patent strategy and experiences in Japan and the possible reasons for any problems encountered. To discuss patent enforcement issues, we met with two Japanese attorneys who have been involved in representing U.S. and Japanese companies in patent infringement suits in Japan and with several academics and former judges.

Further, in Japan, we met with representatives from several associations, including the Japanese Patent Association and the Japanese Patent Attorneys Association, to discuss their views on the Japanese patent system as compared with the U.S. and European systems, and on multilateral efforts to achieve patent harmonization. We also met with patent counsel from two Japanese companies and one U.S. company with operations in Japan to discuss their patent strategy and experience in Japan as compared with that in the United States and Europe. Finally, we met with officials of the Japanese Ministry of Foreign Affairs to discuss their views on patent harmonization.

We performed our review from December 1991 to May 1993 in accordance with generally accepted government auditing standards.

U.S. PTO, EPO, and JPO provided comments on portions of the draft report. U.S. PTO and EPO generally agreed with the information presented. JPO provided some technical comments that we considered in preparing this report. Private U.S. and Japanese patent attorneys also reviewed relevant sections, and appropriate companies verified that specific examples presented in this report accurately represent their views of their experiences.

# U.S. Firms' Experiences in Obtaining Patents in Japan

To develop an understanding of U.S. firms' patent experiences in Japan, we surveyed companies that were top U.S. patent holders (in terms of the number of patents held) in three sectors—chemicals, semiconductors, and biotechnology. Ninety-two percent of the 300 U.S. firms that responded to our survey had filed patent applications in Japan in the past 10 years.[1] Sixty-eight percent held 10 or more Japanese patents. The majority of the responding firms were large. Almost 60 percent had annual sales of over $1 billion. Ninety percent were either U.S. companies or subsidiaries of U.S. companies; 10 percent were subsidiaries of foreign firms.

According to the survey results, the patent problems companies reported in Japan were generally more widespread than those they experienced in the United States or Europe. Of the responding companies, more than three times as many were dissatisfied with their overall patent experience in Japan as compared with that in the United States and Europe. Thirty-nine percent expressed dissatisfaction with their patent experience through JPO, while 13 percent were dissatisfied with U.S. PTO and 3 percent with EPO. These results indicate that U.S. companies were not necessarily partial to U.S. PTO since the responding companies were generally more satisfied with their overall patent experience with EPO than with U.S. PTO.

Sixty-five percent of the responding companies reported at least one major problem in obtaining patents in Japan. In contrast, 25 percent reported at least one major problem in Europe, and 17 percent in the United States. In obtaining Japanese patents, the companies frequently cited problems with the length of time involved, the cost, the scope of patent protection granted, and the ability to obtain patents for pioneering inventions. However, only 6 percent of the companies reported that patent problems in Japan had had a serious adverse effect on their company. Some companies that reported significant patent problems in Japan told us that these problems had not yet caused adverse effects because they currently had few sales in Japan. Some corporate patent counsel noted that it is difficult to isolate the effect of patent problems in Japan from other problems their companies face in trying to penetrate the Japanese market.

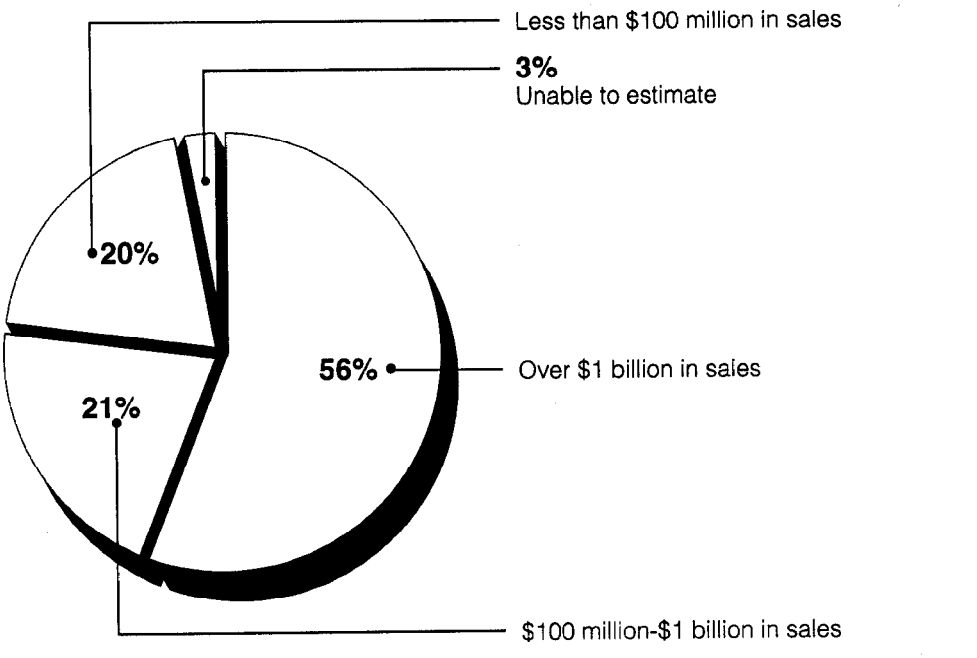
The European company officials we interviewed expressed similar views on the length of time involved and the more limited scope of protection granted in Japan. However, European company officials expressed overall satisfaction with the patent protection their firms have received in Japan, as well as in Europe and the United States.

[1]All subsequent survey results are based on responses from companies that had filed patent applications in Japan in the past 10 years.

## Profile of U.S. Firms Responding to GAO Survey

As shown in figure 2.1, the majority of the responding firms had worldwide 1991 sales of at least $1 billion.

**Figure 2.1: Size of Responding Firms, by 1991 Sales**



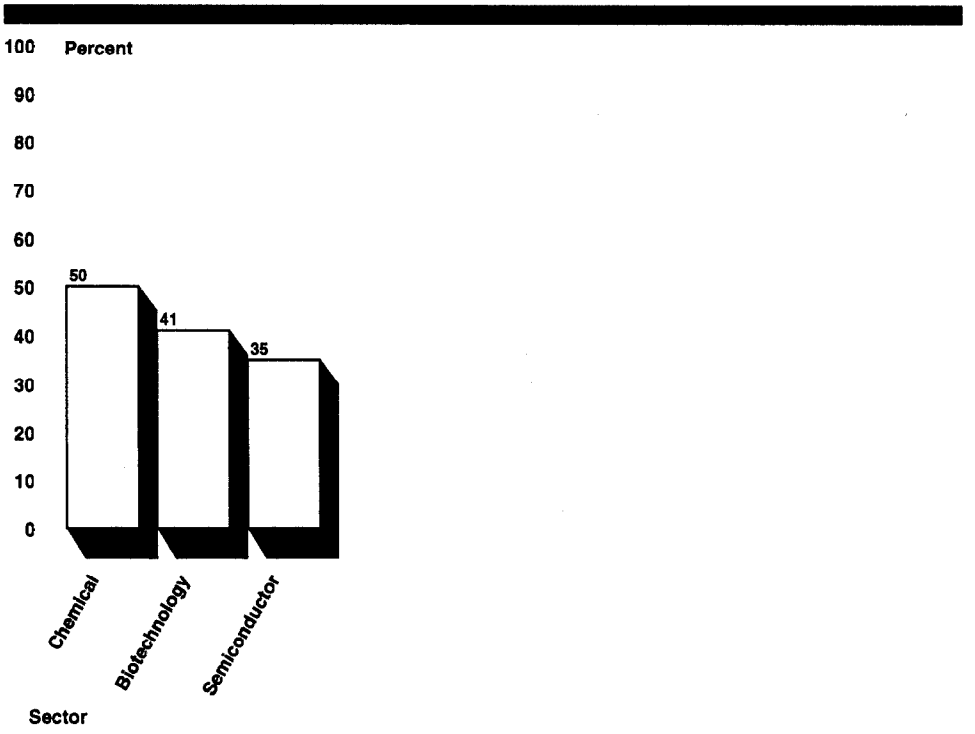

Source: GAO survey of U.S. firms.

The responding firms had the following other characteristics:

- Almost half (49 percent) had over 10,000 employees worldwide. Thirty-two percent had between 500 and 10,000 employees, and 19 percent had 500 or fewer employees.
- Seventy percent were established before 1971, and 21 percent were established in 1980 or later.
- Ninety percent were either U.S. firms or subsidiaries of U.S. firms. Nine percent were subsidiaries of European firms, and 1 percent were subsidiaries of Japanese firms.

Figure 2.2 shows the filing activity of the responding firms, by sector.

**Figure 2.2: Current Filing Activity of Responding Firms, by Sector**




Source: GAO survey of U.S. firms.

Almost half of the responding companies were either diversified or not primarily involved in these three sectors. Sixteen percent described themselves as primarily chemical companies, 15 percent as primarily biotech companies, and 14 percent as primarily semiconductor companies.

Small firms made up about one-third of firms filing for biotechnology patents, while large firms formed the majority of companies filing for chemical patents.[2] Almost half of the firms filing for semiconductor patents were large.

[2]We defined "small" firms as those with 1991 worldwide sales of less than $100 million. We defined "large" firms as those with 1991 worldwide sales of at least $1 billion.

## U.S. Firms' Patent Activity in the Three Systems

During the past 5 years, the patent filing activity of the responding firms in the United States, Europe, and Japan was as follows:

- One hundred percent had filed patent applications in the United States, and 95 percent had 10 or more active U.S. patents.
- Ninety-nine percent had filed applications in Europe. Ninety-two percent had filed most or all of their European patent applications through EPO. Seventy-nine percent held 10 or more active patents in Europe.
- Ninety-two percent had filed in Japan, and 68 percent had 10 or more active Japanese patents.

## U.S. Firms' Business Activity in Japan

A majority of the responding firms have extensive business ties in Japan. In the past 5 years, 90 percent of the firms said they had conducted business arrangements with Japanese companies, including licensing arrangements and joint ventures. Currently, 52 percent of the firms wholly or partly own subsidiaries or manufacturing facilities in Japan, a majority of which have been established for at least 10 years.

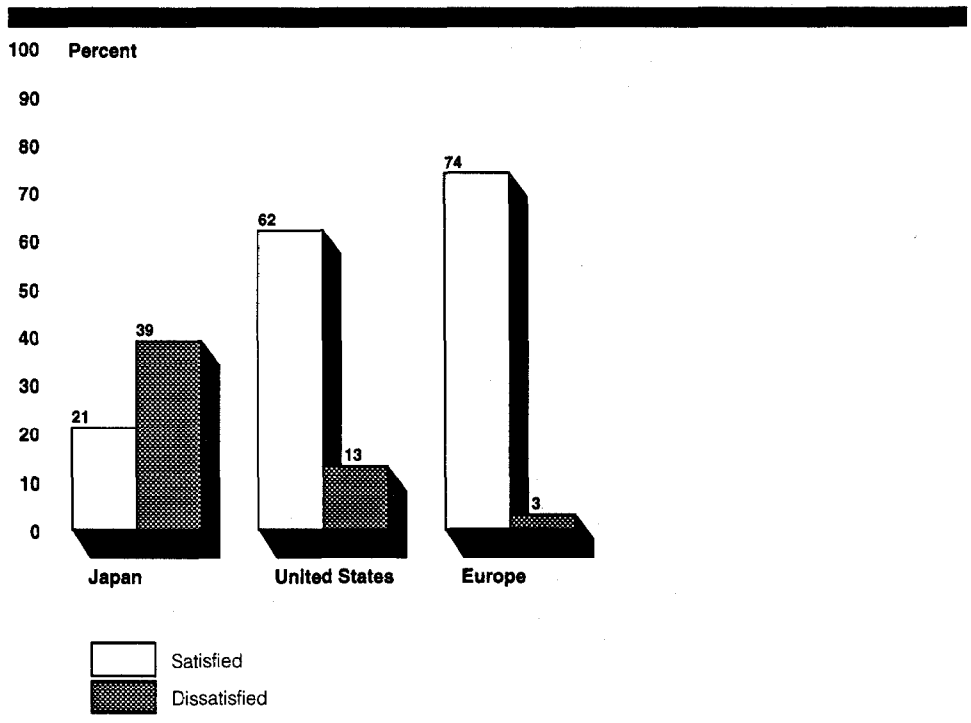
The responding U.S. firms considered the Japanese market to be less important than the U.S. and European markets. Of the responding firms, 98 percent said the U.S. market was of "great" or "very great" importance, while 58 percent said the Japanese market was of similar importance to their firm. Seventy-eight percent believed that the European market was of great or very great importance.

## Survey Results: U.S. Companies' Overall Experience in Obtaining Patents in Japan

Of the U.S. firms responding to our survey, 39 percent reported that they were dissatisfied with their overall experience prosecuting patents through JPO,[3] while 21 percent said that they were satisfied. In contrast, most companies were satisfied with U.S. PTO and EPO. Figure 2.3 shows the U.S. companies' overall level of satisfaction with prosecution through JPO, U.S. PTO, and EPO. As shown in the figure, the responding firms were not necessarily partial to U.S. PTO since they were generally more satisfied with their overall experience with EPO than with U.S. PTO.

[3]The preparation of a patent application and the process of obtaining a patent is known as "patent prosecution."

**Figure 2.3: Percent of Firms That Are Satisfied/Dissatisfied With Their Overall Patent Prosecution Experience in Japan, the United States, and Europe**




Source: GAO survey of U.S. companies.

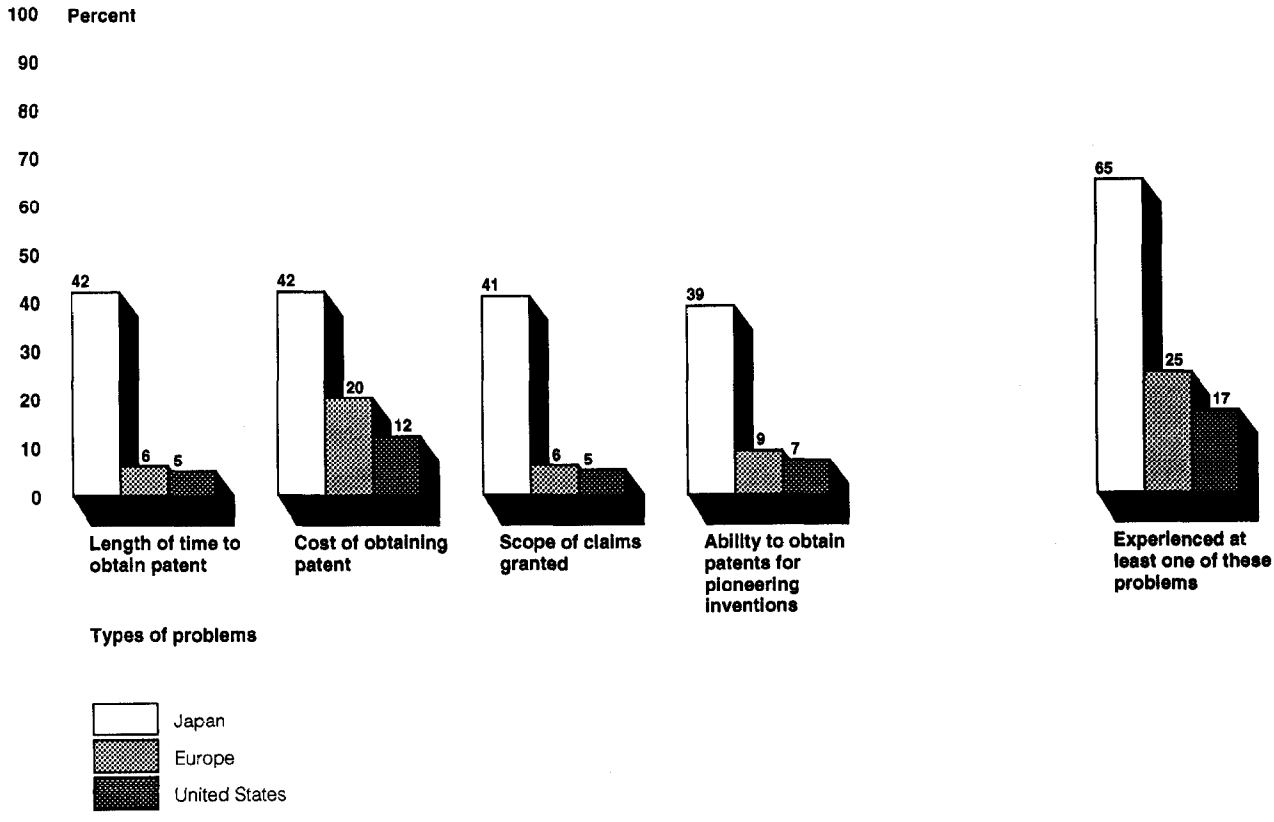
To compare U.S. companies' patent experience in Japan with that in the United States and Europe, we asked companies to consider four aspects of the patent prosecution process that may have been problematic for them in these jurisdictions in the past 5 years:

- the length of time needed to obtain a patent,
- the cost of obtaining a patent,
- the scope of patent protection granted, and
- the ability to obtain protection for pioneering inventions.[4]

As shown in figure 2.4, 65 percent of the companies reported experiencing problems in at least one of the above areas in Japan and indicated on the survey that it was a "great" or "very great" problem to their firm. Twenty-five percent reported at least one major problem of this magnitude in Europe and 17 percent in the United States.

[4]Pioneering inventions are those that involve substantially new, or breakthrough, technologies.

**Figure 2.4: Percent of Firms With Great Patent Problems in Japan, Europe, and the United States**




Source: GAO survey of U.S. firms.

## Japan's Patent Approval Process Is Lengthy

Forty-two percent of the responding companies said that "patent pendency" in Japan, or the length of time needed to obtain a patent, was a "great" or "very great" problem, compared with 5 percent that had similar problems with pendency in the United States and 6 percent in Europe. One clear result of the long pendency period in Japan is a shorter patent life, which begins at the time an application is filed in Japan.[5] Several company officials noted that excessive delays in obtaining patents "eat into the effective patent life." As discussed in chapter 3, patents usually take 6 to 7 years to be issued in Japan.

[5]As noted in chapter 1, Japanese patents are valid for 15 years from the date the patent application is published for opposition, but not more than 20 years from the original filing date.

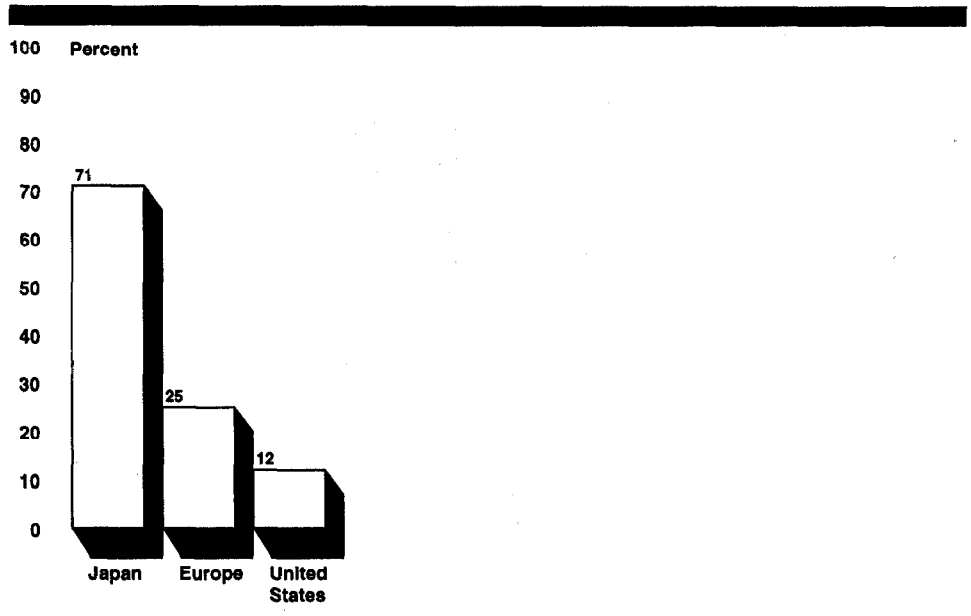
Another common complaint from the companies we interviewed was that it takes too long for JPO to begin an examination of the patent after the applicant requests one. Several corporate patent counsel said that it takes at least 3 years for an examination to begin after it is requested. Many company representatives complained that the combination of publishing patent applications after 18 months in Japan and the long delays in the start of an examination allows competitors to "produce around" their products, making only minimal changes without infringing on the patent.

## JPO Grants Narrower Scope of Protection

The scope of patent protection outlines the boundaries of the invention for which the inventor holds exclusive rights. Under Japanese patent practice, patent claims are construed as narrowly as possible. Forty-one percent of the companies reported that the scope of patent protection they received for their inventions from JPO was a "great" or "very great" problem. In contrast, 5 percent said that the scope of protection granted by U.S. PTO was a major problem, and 6 percent said that the scope granted by EPO was a major problem.

To further address the issue of patent scope, we asked companies to rate the scope of patent protection they received in Japan, Europe, and the United States, using a scale from "much too broad" to "much too narrow." As shown in figure 2.5, about six times as many of the responding companies indicated that the scope of protection granted in Japan was too narrow, as compared with companies that said the scope granted in the United States was too narrow.

**Figure 2.5: Percent of Firms That View the Scope of Patent Protection as Too Narrow in Japan, Europe, and the United States**




Source: GAO survey of U.S. firms.

The patent counsel at a major U.S. chemical company said that in Japan, the scope of his firm's claims was "narrowed by 85 percent of what it is granted in the United States or Europe." A patent attorney at another large U.S. firm said that in two cases, where his firm's U.S. patents were successfully enforced in the United States, the scope of the corresponding Japanese patents for these products was too narrow to bring an infringement action in Japan.

## Pioneering Inventions Face Particular Difficulties

More than four times as many companies viewed their ability to obtain a patent for a pioneering invention as a problem in Japan as compared with that in Europe or the United States. As shown in figure 2.4, 39 percent found obtaining protection for pioneering inventions from JPO to be a "great" or "very great" problem, while 9 percent indicated similar problems with EPO and 7 percent with U.S. PTO.

In comparing their experience in obtaining patents for pioneering inventions in Japan with that in the United States and Europe, 44 percent of the responding companies said that they experienced "much more" or

"somewhat more" difficulty in Japan. In addition, many company officials told us that it is particularly difficult to obtain patents on broad, commercially valuable technologies in Japan or on those that involve important new technologies. Several U.S. patent attorneys told us that JPO does not provide broad protection for emerging technologies until Japanese industry is well established in the field or unless there are no Japanese competitors. For example, U.S. companies experienced the following difficulties:

- The patent counsel at a U.S. electronics company said that in the early and mid-1980s, his firm had encountered no problems in Japan in obtaining the first 10 patents related to an important new telecommunications technology. In his view, at that time "no one understood the technology's importance." Since then, however, he said that the technology has become the U.S. standard in its field, and Japanese companies have become interested in developing it. During the past 5 years, the firm suddenly stopped receiving additional Japanese patents on this technology although the corresponding patents have been issued "all around the world."
- The patent counsel at a biotechnology firm said a significant problem with the Japanese patent system is that applicants are granted equally narrow patent protection regardless of their product's level of innovation, or the amount of time and money invested in developing it. He said that in the United States, pioneers in a field are generally given broad patent protection.

## Allied-Signal's Experience With a Pioneering Technology

A case that is often cited as an example of the difficulty in obtaining a patent for a pioneering invention in Japan is Allied-Signal's experience with its breakthrough amorphous metal technology,[5] known as "Metglas," in the 1980s. Officials from Allied-Signal told us that their overall experience in securing patent protection in Japan has been favorable. However, based on their experience with Metglas, they believe that pioneering inventions that are targeted as "critical technologies" by the Japanese government face particularly long delays at JPO.

In 1973, Allied-Signal filed an application in Japan for a composition patent related to amorphous metals. In 1977, it filed an application to protect a new process for casting the material and also requested examination of the composition patent. In the late 1970s, Allied-Signal officials said

[5]An advanced material, amorphous metals are made of alloys of iron, boron, and silicon, giving them a glass-like structure. One significant advantage that amorphous metals have over conventional metals is that they have magnetic properties that reduce the loss of energy in electrical devices. The most promising commercial use for amorphous metals is as cores for electric distribution transformers used by power utility companies.

Japan's Ministry of International Trade and Industry organized and subsidized a consortium of Japanese companies to develop amorphous metal technology.

Six companies and individuals opposed Allied-Signal's application on the composition patent after it was published for opposition in 1980, and in 1982, JPO rejected the application. However, Allied-Signal appealed the decision, and the patent was eventually granted in 1984.

Allied-Signal requested examination of the process patent in 1979. After it was published for opposition in 1986, seven companies and individuals filed oppositions to it. After almost 3-1/2 years, JPO decided in Allied-Signal's favor in 1989. While JPO granted the respective patents in 1984 and 1989, they were due to expire in 1993 and 1997 (20 years after the initial filing date). Thus, less than 10 years of patent life remained as a result of the delays in issuance.

Allied-Signal had several complaints about JPO's handling of its patent applications. For example, company officials told us that JPO intentionally reassigned examiners to their cases several times to delay patent prosecution. Company officials also contend that JPO purposely delayed patent issuance to allow Japanese competitors time to catch up in developing amorphous metal technology and to lock out Allied-Signal from the Japanese market. (By 1987, one Japanese company had developed a similar technology.) According to company estimates, the value of the Japanese market during this time frame totalled $90 million annually for electric utility transformers, the major product from amorphous metals.

In the spring of 1990, Allied-Signal filed a complaint with USTR for an investigation under section 301 of the 1974 Trade Act.[6] However, the case was settled when the Japanese government agreed to protect Allied-Signal's manufacturing rights until 1997 and to purchase a specified amount of the material.

## Patent Flooding Is Not Rampant, but May Be Targeted

"Patent flooding"—the practice of filing many patent applications claiming minor, incremental changes surrounding another patentee's core technology—has been publicized as a widespread problem in Japan. Of our survey respondents, 12 percent said patent flooding was a "very great"

[6]Section 301 of the Trade Act of 1974, as amended, 19 U.S.C. 2411, provides a procedure under which affected enterprises or individuals may petition USTR to initiate actions to enforce U.S. rights under trade agreements. It may also be used to respond to unreasonable, unjustifiable, or discriminatory foreign government practices that burden or restrict U.S. commerce.

or "great" problem in Japan. Five percent reported that it was a very great or great problem in the United States, and 3 percent in Europe. Both U.S. and Japanese patent attorneys agreed that pioneering inventions and/or technology that promise high commercial returns are usually the targets of patent flooding in Japan when it occurs. Some examples of the problems U.S. firms have reported with patent flooding are as follows:

- The patent counsel at a major U.S. semiconductor manufacturer told us that it is very common for Japanese competitors to surround his company's core patents with patent applications that contain no substantive improvements. Usually, his company will negotiate with its competitors to abandon these minor patent applications. The problem, the attorney noted, is that the company does not have the money to monitor all its competitors' patent applications in Japan. Therefore, in cases where JPO grants minor patents that border on its own invention, the company must negotiate a cross-licensing agreement, exchanging its technology for the competitor's.
- A patent counsel for a chemical company described a case involving a breakthrough synthetic fiber, for which it had filed several patent applications in Japan in the 1970s. Within 10 years, a major Japanese competitor had filed 150 patents directed at making incremental changes in the U.S. company's claimed inventions. In the company official's view, the competitor's objective was to limit the U.S. inventor's use of its own technology. He noted that the Japanese company attempted to pressure the company into cross-licensing its technology, but the U.S. company refused.
- The patent counsel for a large U.S. company told us that after his firm had filed an application for a patent on a specialized light bulb, a Japanese firm notified his firm that it had filed 200 applications on a related technology and was interested in a cross-license from his firm. The patent counsel said that his firm was unable to use a similar filing strategy in Japan because the costs, particularly for translation, would be prohibitive. In addition, he noted that his firm could never build a "blanket" portfolio of patents around its own inventions to protect a technological area because of the high filing and translation costs in Japan.

## Pre-grant Oppositions Add to Delays

Forty-five percent of the U.S. companies responding to our survey said that at least one of their patent applications was opposed in Japan in the last 5 years. Of these, 71 percent said that their opposed patent application had 1 to 5 opponents, 15 percent had 6 to 10 opponents, 9 percent had 11 to 50 opponents, and 2 percent had more than 50 opponents. Of the

companies that reported receiving at least one opposition, 10 percent said that it had adversely affected their companies to a "great" or "very great" extent. U.S. and Japanese patent attorneys told us that pre-grant oppositions in Japan can delay patent issuance anywhere from 2 to 5 years, and, in some cases, extend the process of obtaining a patent beyond its useful life.

U.S. and Japanese patent attorneys also told us that applications for pioneering inventions are commonly the target of oppositions because of their high technological and commercial value. Moreover, several U.S. attorneys said they had firsthand knowledge of Japanese companies working together to oppose certain applications, both domestic and foreign. Some of the specific problems encountered included the following:

- One U.S. attorney described his company's experience with a patent application for an advanced material generally acknowledged to be a pioneering invention. When the application, which was initially rejected by JPO but allowed on appeal, was published for opposition, it was opposed by 18 competitors, 17 of which were Japanese firms. The U.S. attorney told us that none of the 17 Japanese oppositions offered any new references for pending or existing patents, and all 17 oppositions contained attachments bearing the same photocopier marks, suggesting to the attorney that the Japanese firms collaborated on an opposition strategy against the U.S. company.
- The patent counsel at a major chemical company told us that one of his firm's applications for a pigment encountered six opponents, and the opposition period lasted 11 years. The patent was issued with 1 month of its term remaining. He noted that the process can take so long because JPO examiners do not review oppositions concurrently; rather, they are decided upon consecutively.
- The patent counsel for a biotechnology firm told us that oppositions in Japan posed a very great problem for his company. In one important case involving a breakthrough drug, his company's application faced 28 Japanese opponents and 7 European opponents.

## Filing for Patents in Japan Is More Costly

Processing a patent application in Japan involves costs similar to those incurred in other jurisdictions: filing fees paid to the government patent office; fees paid to the patent attorney preparing and prosecuting the application; and fees paid for translation incurred when filing in foreign countries. Forty-two percent of the respondents said that the cost of

processing an application in Japan was a "very great" or "great" problem, while 20 percent stated that this cost was a similar problem in Europe, and 12 percent in the United States.

According to a 1993 survey on patent-filing costs in 32 countries, the cost of filing in Japan for foreign applicants was the highest in the world, due to translation costs and fees charged by "benrishi" (Japanese patent attorneys.) For example, in comparing the total costs of filing in Japan to those in the United States, the survey found that the average cost of filing a 25-page patent application in Japan was $4,772, while in the United States the same case was $1,390.

## Patent Attorney Fees

Patent attorney fees in Japan were the highest of any of the countries surveyed. For example, in comparing attorney fees for prosecuting a 25-page application, the survey found that Japanese benrishi charged about three times more than U.S. patent attorneys.

In addition, in Japan, patent attorneys are members of an association that establishes a standard fee schedule—with separate schedules for domestic and foreign clients. A few U.S. patent attorneys said that Japanese patent attorneys have told them that large Japanese companies are able to negotiate special deals that exempt them from the benrishi's fixed schedule. One corporate patent counsel noted that the fixed fee schedule for benrishi allows Japanese patent firms to charge the same fees for all the services they perform as if they were done by an attorney, although many of them may actually be performed by a paralegal or a secretary.

## Translation Fees

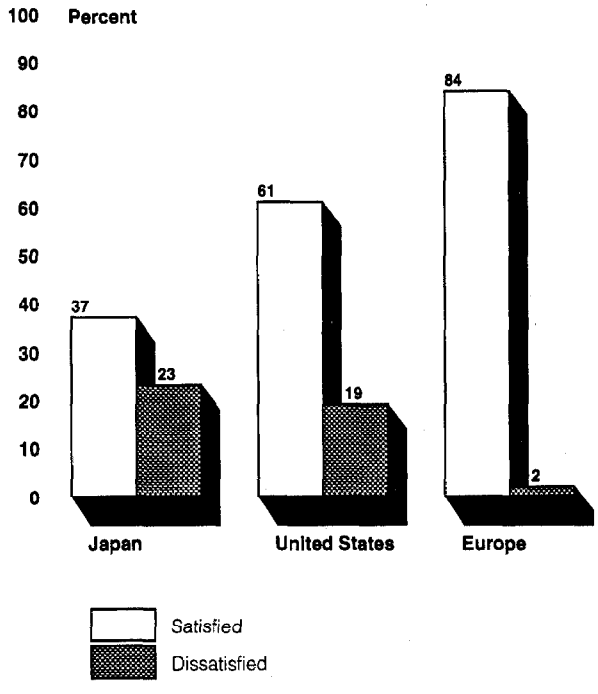
Fees paid to Japanese patent attorneys by foreign clients include the cost of translating the application into Japanese. In addition, in many cases, Japanese patent attorneys must have office actions, prior art references, and oppositions translated. The cost of translating English into Japanese is calculated on a per-word basis and is considerably more expensive than translating into a European language. For example, according to the survey on patent filing costs, the average per-word cost for English/Japanese translation is 43 cents, while translation into German and French is about 32 cents per word, a difference of 34 percent. This expense can be significant since patent applications usually range from 15 to 125 pages.[8]

[8]A typical patent application ranges from 15 to 40 pages. However, applications in the computer and biotechnology sectors tend to be longer, up to 100 to 125 pages in some cases.

## U.S. Firms' Views of the Japanese Patent Office

As shown in figure 2.6, companies were least satisfied with the quality of patent examinations conducted by JPO, and most satisfied with those conducted by EPO.

**Figure 2.6: Percent of Firms That Are Satisfied/Dissatisfied With the Quality of Patent Examination in Japan, the United States, and Europe**




Source: GAO survey of U.S. firms.

## JPO's Office Actions Viewed as Unclear

Nineteen percent of the responding companies said they were satisfied with the clarity of office actions issued by JPO, while 44 percent were dissatisfied. In comparison, a majority (55 percent) of the companies were satisfied with the office actions issued by U.S. PTO, and 15 percent expressed dissatisfaction. EPO received the highest rating for the clarity of its office actions, with 71 percent of the companies reporting satisfaction and 5 percent dissatisfaction. A common complaint that U.S. patent attorneys made was that JPO office actions were overly brief and vague, to the point of being cryptic. However, other U.S. patent attorneys we interviewed told us that in the past 5 years JPO office actions have been getting longer and more detailed. Problems some U.S. firms have had with JPO office actions include the following:

- Company officials at a major U.S. firm told us that JPO examiners will not clarify the basis for rejecting patent claims and will not discuss problems with individual claims within a group of claims. The examiners' "boilerplate" rejections do not help the applicant determine what the basis for the rejection was. Therefore, the applicant will attempt to limit the scope of the protection they are seeking in an effort to eliminate the specific claim to which the examiner is objecting.
- Another corporate patent counsel said that his firm has received vague and ambiguous rejections, citing unrelated and irrelevant Japanese references for prior art without any explanation of how the references make his application unpatentable. He added that such terse office actions force his firm to study the entire reference and construct a possible rejection to which it can respond, which requires extensive effort and expense.

## JPO's Requirements for Evidence to Support Claimed Inventions

Thirty-four percent of the companies expressed satisfaction with the extent of disclosure, or the supporting evidence required to describe their claimed invention at JPO. An equal number (34 percent) expressed dissatisfaction with the extent of disclosure required by JPO. In contrast, almost three-fourths of the responding companies were satisfied with the extent of disclosure required to support their claims by both U.S. PTO (74 percent) and EPO (71 percent). The patent counsel at a pharmaceutical company told us that JPO requires applicants to support all its claims with a full range of data. To satisfy the JPO's requirements, he said applicants must pursue additional development of the product or process in question, which he believes is unnecessary and draws money away from other projects.

## JPO Treatment of U.S. Applicants

Twenty-one percent of the responding companies reported that they perceived they had been treated differently by JPO than Japanese applicants. Nineteen percent responded that they were "probably" treated differently, and 3 percent answered that they were "definitely" treated differently. A majority (63 percent) indicated that they were uncertain. The following are examples illustrating why some U.S. firms felt they were treated differently by JPO:

- One corporate patent counsel said that his firm has filed several Japanese applications that it co-owned with a Japanese company. The co-owned applications were examined much more quickly than those the U.S. firm filed only in its own name.

- Another patent attorney we interviewed from a medium-sized biotech company described a situation in which he had filed patent applications in Japan. At a much later date, a Japanese competitor filed applications with similar claims. The Japanese competitor was successful in obtaining patent protection within the scope of the U.S. company's disclosure, and also in narrowing the U.S. firm's claims. The attorney noted that his company had received broad coverage for this invention in the United States and in Europe.
- The patent counsel for a major U.S. company said he had experienced difficulty prosecuting an application for a medical device, which he later learned was related to a product that a Japanese company produced. The JPO examiner repeatedly requested additional experimental data and detail on the specifications, which the attorney felt were excessive (the same device was patented in Europe without such questioning). In his view, the examiner sought to narrow the scope of the claim so as not to interfere with the Japanese company's product.

Asked whether the JPO's treatment of their company has changed in the past 5 years, the majority (56 percent) of responding companies said that it has remained the same. Fourteen percent responded that it has improved "greatly" or "somewhat," and 6 percent said that it has worsened "greatly" or "somewhat." Several companies noted that within the last 5 years, JPO has become more willing to hold interviews with applicants regarding patent applications.

## U.S. Firms of All Types Experienced Patent Problems in Japan

In our analysis of the survey results, we found that regardless of the sector (semiconductors, chemicals, and biotechnology) in which they were involved,[9] companies reported having "very great" or "great" problems in Japan with patent pendency, the scope of protection granted, the costs of obtaining patents, and the ability to secure protection for pioneering inventions. For example, 46 percent of the biotech firms responding to our survey reported that they had very great or great problems with the length of time required to obtain a patent, as did 49 percent of the semiconductor firms and 38 percent of the chemical companies.

Additionally, our survey results indicated that U.S. companies of varying size and age were experiencing patent problems in Japan. For example, of the firms with 1991 sales of less than $100 million, 40 percent said that they had had very great or great problems with the scope of protection

[9]Many of the firms in our survey file patent applications in more than one sector. They may experience problems in multiple sectors.

they received in Japan compared to the 40 percent of firms that had 1991 sales of over $1 billion who responded similarly. Moreover, 41 percent of the firms that were established before 1971 said that they had had very great or great problems with patent pendency in Japan, while 45 percent of firms established between 1971 and 1979 and 44 percent of companies established after 1979 reported similar problems with the pendency period.

Finally, there was not a great difference in the severity of problems perceived among companies that file frequently and thus have more experience filing in Japan and those companies that file less frequently. For example, 48 percent of the companies that held fewer than 10 Japanese patents reported very great or great problems with patent pendency, while 40 percent that held 10 or more Japanese patents reported similar problems with pendency. Of the companies that filed 20 or fewer applications per year in Japan, 38 percent had very great or great problems in obtaining protection for pioneering inventions, compared with 41 percent that filed more than 20 applications per year.

## High-technology Firms Reported More Problems in Japan

Our analysis of the survey results did, however, show that high-technology companies reported "very great" or "great" problems with patent pendency in Japan more frequently than companies not defined as "high-tech."[10] For example, 50 percent of the high-tech companies reported very great or great problems with the pendency period, while 32 percent of the other companies viewed pendency as a very great or great problem. Forty-three percent of the high-tech companies indicated that obtaining patent protection for their pioneering inventions was a very great or great problem in Japan, compared with 35 percent of the other companies that reported a similar level of problems.

## Oppositions in Japan Are Related to Other Patent Problems

If a company indicated that it had received pre-grant oppositions on its patent applications, it was more likely to report experiencing very great or great problems in Japan with other aspects of the Japanese patent process. For example, 48 percent of the companies that reported receiving one or more oppositions said that they had had "very great" or "great" problems with the pendency period in Japan, compared with 32 percent of those that had never received an opposition. Additionally, 43 percent of companies

[10]The Department of Commerce has developed a list of high-technology products using Standard Industrial Codes and other economic measures. To identify high-tech firms in our survey universe, we used a corporate directory listing items produced by U.S. firms and matched them with products appearing on the Department of Commerce list.

that had received oppositions viewed the scope of protection they had obtained as a very great or great problem, compared with 36 percent of companies that had not received them.

## The Impact of Problems in Obtaining Patents in Japan

Several U.S. companies told us that as a result of the patent problems they have experienced in Japan, they have decided to reduce their patent filing there. For example, one U.S. patent attorney told us that his firm has almost given up on patenting anything but the most crucial inventions in Japan due to the costs, difficulties, delays, and inability to monitor or enforce its patents. The patent counsel at a large chemical company said that because of the delays in obtaining patents in Japan and the limited scope of protection granted, his company plans to file fewer applications in Japan in the future and to invest less in Japan.

## Some U.S. Firms Transferred Technology to Avoid Patent Problems

Thirty-four percent of the companies responding to our survey reported that they file for patents in Japan in order to enter into licensing arrangements involving technology transfer to other companies "always or almost always," "very often," or "often." In comparison, 33 percent said that they "sometimes" file for patents in Japan to negotiate licensing agreements involving technology transfer; 29 percent said they "seldom if ever" do so.

In the past 5 years, 8 percent of the responding companies said that they "definitely" or "probably" had transferred technology to Japanese firms solely to avoid patent problems in Japan. The great majority (83 percent) indicated that they "definitely" or "probably" did not enter into technology transfer agreements in Japan solely to avoid patent problems. However, in cases where firms responded that they definitely did transfer technology to avoid patent problems, significant technologies were generally involved. The following are examples of such transfers:

- The patent counsel at a chemical firm told us that about 10 years ago, his company filed an application at JPO for a breakthrough plastic material. Soon after, a Japanese competitor filed applications surrounding his firm's invention with minimal, alleged improvements on the material. After the application was published for opposition, the Japanese company began to submit oppositions aggressively. The case is still pending due to these opposition proceedings. When the Japanese firm began to sell a product using technology in the U.S. firm's pending patent, the company officials felt compelled to negotiate a licensing agreement and earn royalty income

or face losing its technology without gaining compensation. The company decided to license its technology. The U.S. attorney told us that when a problematic patent case arises, he feels that he is forced to "make peace with the Japanese on their terms" with such an arrangement.

- Another corporate patent counsel told us that his company generally seeks to license technology to a Japanese partner because the Japanese firm will help it in prosecuting the patent through JPO. He explained that his firm has had little success in obtaining patents on its own in Japan in the past, and in general, his firm does not anticipate receiving broad Japanese patents on its own. Based on his experience, he said that a U.S. company is much more likely to receive a broad Japanese patent if it has a Japanese partner.

## Patent Problems in Japan Have Little Adverse Effect on U.S. Firms

Responding to whether patent problems in Japan have had an adverse effect on their company, 6 percent said that patent problems had a "very great" or "great" adverse effect, and 12 percent indicated a "moderate" adverse effect. Sixty-five percent responded that these problems had adversely affected their company to "some" or "little/no extent."

Many companies that reported great or very great patent problems in Japan said that these problems did not have a serious adverse effect on their firm. Some corporate patent counsel noted that it is difficult to isolate the effect of patent problems in Japan from other problems their companies face in trying to penetrate the Japanese market. They indicated that they currently had few sales in Japan, and therefore, patent problems had not yet had any severe consequences. Several companies explained that they were filing in Japan mainly for defensive purposes.

Some companies that reported they were adversely affected by patent problems in Japan told us that these problems contributed to their difficulty in establishing market share in Japan. The following are examples:

- A U.S. patent attorney for a medium-sized electronics firm told us that there is a distinct difference between the number of patents that his firm has obtained worldwide and the number it holds in Japan. This situation is problematic because his company is involved in negotiating many licensing arrangements with Japanese companies. He explained that the low number of patents that his firm holds in Japan puts his company in a weak bargaining position when it comes to negotiating these agreements. He believes that his weakened position effectively prevents companies like

his from gaining a dominant position in Japan and allows Japanese companies to monopolize the field.

- The patent counsel of a small U.S. biotech company said that start-up firms face particular problems in Japan. He told us that the narrow scope of patent rights his firm has received in Japan allows competitors to enter the market and produce similar products without incurring the substantial research and development expenses that firms like his have incurred. As a result, the value of his patents is diminished.
- The patent counsel of a large U.S. chemical company believed that patent problems in Japan have had a great adverse effect on his company. In his view, difficulties in obtaining patents in Japan affect his company's ability to expand in certain business areas there, hindering its capacity to penetrate the market successfully.

## Does the Japanese Patent System Give Japanese Firms an Edge?

Asked whether they believe the Japanese patent system gives a competitive advantage to Japanese companies over their firms, 23 percent of the companies responded that it did to a "very great" or "great" extent, 19 percent said to a "moderate" extent, and 28 percent said to "some" or "little/no extent." Thirty percent said that they had no opinion or no basis to judge. The following are examples cited by some U.S. patent attorneys who felt that the Japanese patent system gives Japanese firms a competitive advantage:

- One U.S. patent attorney felt that Japanese companies have easier access to and are better able to communicate with JPO examiners about their competitors' pending applications.
- Several corporate patent attorneys complained that U.S. and other foreign applicants face extensive delays and other difficulties in obtaining Japanese patents, whereas Japanese applicants do not face similar obstacles in the United States. One attorney commented that "the Japanese take great advantage of the U.S. patent system, while U.S. companies are de facto prevented from obtaining patents in Japan. This is out of balance and hurts competitiveness."

## European Firms' Patent Experience in Japan

Regarding patent pendency and the scope of protection granted by JPO, the patent counsel of the European firms we interviewed largely echoed the views of their U.S. counterparts. For example, some European company officials said that patent pendency for certain technologies was longer in Japan than in the United States or Europe. One European company official noted that in the biotechnology field, JPO usually requires 6 years from the

time that a request for examination is submitted, to the time of patent grant if there are no oppositions; with oppositions, the average delay is an additional 3 to 4 years. In his view, U.S. PTO would grant a patent on the same case within 3 years. European company officials also said that Japanese firms commonly use patent flooding as a strategy to gain access to the technology of other patent holders, who must then consider cross-licensing arrangements. The company officials said the narrow scope of protection JPO grants allows this practice to occur.

Overall, however, the European company officials that we interviewed were satisfied with the patent protection their firms received in Japan, Europe, and the United States. Several European company officials said that the longer pendency period and narrower scope of patent protection they received in Japan did not impede their firms' competitiveness. Some company officials said that some reasons why European firms may be generally satisfied with their experience in Japan are that they have (1) historically relied on foreign markets and patents for economic survival; and (2) focused their efforts on mastering foreign patent practices, including the Japanese system.

# Causes for U.S. Companies' Patent Prc in Japan and Recent Changes in the Japanese Patent System

U.S. firms have reported a number of patent problems in Japan; however, most of these relate to the long pendency period and the limited scope of protection that their inventions have received. The pendency period is the amount of time required to obtain a patent. While it is difficult to compare the pendency period in Japan and the United States because of fundamental differences in the two systems, it is clear that the pendency period in Japan is longer than that in the United States. In Japan, the typical patent takes an average of 6 to 7 years to be issued, compared with about 19 months in the United States. Among the reasons for the longer pendency period in Japan are the pre-grant opposition system and the fact that JPO receives more than twice as many patent applications per year as U.S. PTO, while employing far fewer examiners. Further, several Japanese patent attorneys said that a narrower scope of patent protection is granted in Japan as compared with that in the United States.

Recently, JPO has begun implementing measures to improve Japan's patent system, including introducing accelerated examination procedures, allowing multiple claims within one patent application, and encouraging Japanese industries to file fewer applications. Under the U.S.-Japan Structural Impediments Initiative (SII), the Japanese government has agreed to reduce patent pendency time and to increase the number of patent examiners. It has made some progress in honoring these pledges.

## Systemic Differences and Administration of the Japanese Patent Process Pose Problems

Many U.S. patent attorneys and other patent experts do not believe that the Japanese patent system inherently discriminates against foreign applicants. However, they agree that certain cultural and structural aspects work together to make it difficult for non-Japanese firms to obtain effective patent protection in Japan. As discussed in chapter 2, over 40 percent of the U.S. companies responding to the GAO survey indicated that they had experienced problems with the long patent pendency period in Japan and the narrow scope of protection granted, while less than 6 percent reported having these problems in Europe and the United States. Moreover, many other patent problems in Japan, such as patent flooding and the difficulty of obtaining broad coverage for pioneering inventions, are related to the pendency period and the limited protection granted.

### Delays in Patent Pendency

Fundamental differences in the U.S. and Japanese patent systems make it difficult to directly compare specific aspects of the systems, including patent pendency. Calculating pendency in Japan is difficult for two reasons: (1) unlike in the United States, an applicant has the option of

deferring the request for an examination in Japan for up to 7 years; and (2) as of 1991, JPO had a backlog of about 350,762 pending patent applications (for which requests for examination had already been made).

Despite the difficulties in calculating the pendency period in Japan, the time required to obtain a patent in Japan is clearly longer than in the United States. Currently, the average amount of time for a typical Japanese patent to be issued appears to be about 6 to 7 years. Further, it may take up to 10 years for patents to be issued in active technological areas at JPO, such as organic chemicals and electronics. In the United States, by contrast, the average amount of time that elapsed for patents to be issued or rejected in 1991 was 19 months. However, in some technology areas, such as biotechnology, the average pendency period was 25 months in 1991.

According to JPO statistics, the average pendency period in Japan in 1991 was 30 months, or 2.5 years. However, this figure is misleading because it does not take into account the time that elapses before an examination actually begins in Japan.[1]

According to leading U.S. and Japanese patent experts, due to the backlog of applications in Japan, there is an average minimum delay of 3 to 4 years before JPO will begin an examination even if a request for examination is made at the time the application is filed. In the view of several Japanese patent attorneys, due to this 3- to 4-year delay, it is generally advisable for applicants to wait at least 3 years before requesting examination. This waiting period allows them additional time to assess the viability of the invention and to defer examination fees.

It is possible to view the Japanese patent application process as involving three phases. Table 3.1 outlines the average amount of time that elapses in each phase.

[1]JPO calculated this figure by dividing 596,470 (the backlog of patent and utility model examination requests) by 243,257 (the number of examinations completed in 1991). The result, 2.45 years, or 30 months, represents the time it would take JPO to dispose of the current backlog of applications. Therefore, this figure, taken alone, should not be interpreted as the total average pendency for patent applications.

**Table 3.1: Three Japanese Patent Processing Phases, as of 1992**

| Phase 1 | | Phase 2 | | Phase 3 | |
|---|---|---|---|---|---|
| **Processing phase** | **Average time** | **Processing phase** | **Average time** | **Processing phase** | **Average time** |
| Date of patent filing to date of request for examination | 36-48 months, due to backlog of applications | Date of examination request to date first office action is received | 18 months | Date of first office action to date of patent issuance | 21-24 months, if no oppositions are lodged |

Source: U.S. embassy, Japan.

The final phase of the Japanese patent process includes the time allowed for the applicant to amend the application and for competitors to file oppositions to the proposed patent (see discussion in the following section.) As shown in table 3.1, if no oppositions are submitted, this period is approximately 21 to 24 months.

### Recent Decline in the Number of Patents Issued by JPO

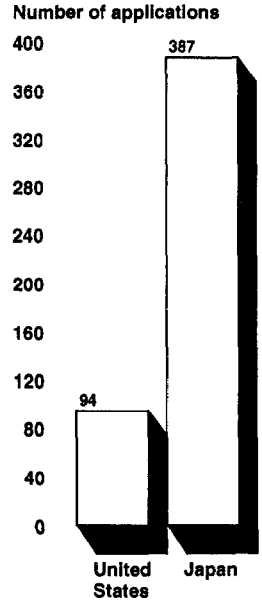
In 1991, JPO issued 36,100 patents, down from 59,401 issued in 1990 and 63,301 issued in 1989. This decline represents a 39-percent drop from the number issued in 1990 and a 43-percent drop from the 1989 level.

## Reasons for Delays

### Fewer Patent Examiners at JPO Than U.S. PTO

One key problem that U.S. patent experts frequently cite as contributing to the long delays in obtaining patents in Japan is the relatively low number of JPO patent examiners. While the number of patent applications filed annually in Japan has almost doubled over the past 10 years, the number of examiners has remained steady. As shown in figure 3.1, the ratio of patent applications filed to patent examiners is about 4 times higher in Japan than in the United States. In 1991, JPO had 955 patent examiners to handle 369,396 patent applications filed that year. U.S. PTO, in comparison, had 1,890 patent examiners in 1991 to review 178,083 applications filed.

**Figure 3.1: Number of Patent Applications Per Patent Examiner in the United States and Japan, 1991**




Source: U.S. PTO and JPO.

Some patent experts point out, however, that increasing the number of examiners alone cannot address the current backlog of applications. Further, according to Japanese patent attorneys, the Japanese government is constrained by a law that restricts the number of civil servants in Japan. Therefore, the government is not likely to dramatically increase the number of patent examiners.

## Pre-Grant Opposition System Adds to Delays

As discussed in chapter 1, Japan has a pre-grant opposition system. This system allows a third party to lodge an opposition against another application before JPO grants a patent. In 1991, 6.5 percent of all applications were opposed, and each opposed application had an average of 1.8 opponents.

Pre-grant opposition procedures in Japan follow a prescribed time frame.

- After JPO has completed an examination and has found no reason to reject the application, it is published "for opposition."

- Within 3 months from the publication date, an opponent may lodge an opposition. Oppositions may cite objections regarding the substance of the invention, such as prior art against the claimed invention, or a procedural problem involving prosecution.
- The applicant is then given an opportunity to respond to the opposition(s) by filing amendments to the specification, claims, or drawings. A domestic applicant must respond to an opposition within 60 days (foreign applicants must respond within 6 months) from the date of the opposition statement sent by JPO.
- An opposition case is closed when the patent examiner issues a determination, accepting or rejecting an opposition, which will result in the issuance or rejection of the patent application. According to JPO officials, a patent examiner has no time limits to decide on the validity of an opposition or to evaluate an applicant's response.

As noted in chapter 2, pre-grant oppositions can further delay patent issuance. Particularly long delays occur for applications that encounter multiple oppositions. The delays are compounded by the fact that JPO examiners are not required to review oppositions concurrently, but may assess them individually. Patent applicants must prepare and submit a response to JPO for each opposition filed. Foreign applicants usually must have each opposition, as well as the JPO response, translated into their native language.

According to some patent attorneys, in addition to causing protracted delays, the pre-grant opposition process also serves to narrow the scope of the claims in a patent application beyond JPO's own examination process. An applicant will usually attempt to overcome a competitor's opposition by restricting or dropping claims within the patent.

U.S. patent attorneys said that Japanese firms will frequently oppose their competitors' applications in order to delay or prevent a patent from being issued. Often their intent is to obtain a cross-license.[2] While Japanese firms will lodge oppositions against other Japanese firms' applications, they generally "settle amicably," that is, they will negotiate a licensing agreement. On the other hand, Japanese firms will oppose foreign competitors' applications because they believe that foreign firms will be unwilling to license their technology since they generally seek exclusive rights to it. Additionally, according to U.S. patent attorneys, the number of

[2]Conversely, the patent counsel of some U.S. firms that are generally willing to license their technology told us that they have had few problems with pre-grant oppositions in Japan because Japanese firms know that they will eventually obtain a license.

oppositions lodged is related to the importance of the technology in question and the level of maturity of Japanese industry in that field.

### Japanese Industries' Patent Practices Contribute to Backlog and Delays

Japanese firms have traditionally filed many more patent applications than U.S. and European firms. Some major Japanese firms file approximately 10,000 patent applications per year at JPO; in peak years, they have filed more than 20,000 applications. In comparison, the top U.S. patent holders we interviewed filed about 1,300 applications per year at U.S. PTO. Numerous factors lead Japanese industry to file in such great numbers, including the following:

- The first-to-file system, coupled with the 7-year deferral option, allows Japanese firms to file applications for inventions of questionable merit and those that may not be fully developed. Frequently, applicants file without intending to request an examination. In 1989 and 1990, for example, about 40 percent of the applications filed at JPO were abandoned (i.e., after the full 7-year deferral period had elapsed).
- Until 1988, as a general rule, Japanese patent applications could claim only one invention per application. (U.S. PTO, by contrast, has allowed the use of multiple claims since the 1800s.)
- The type of research and development in which Japanese firms have historically been involved focuses on incremental improvements, which lends itself to numerous, narrow patents.
- In Japan, the number of patent filings has traditionally been used to measure a firm's level of innovation and to reward its engineers' productivity. Further, since fees for filing applications at JPO have been relatively low (approximately $100), firms have had little incentive to limit the number of applications they file. (Higher costs are incurred when a request for examination is submitted.)
- Strategically, Japanese firms believe that owning a large volume of narrow patents is more prudent than holding a handful of broad patents. The rationale is that if an action, such as an infringement suit, is taken against the firm, an unfavorable decision exposes a company with one or two broad patents to risk "losing it all" if the patent is invalidated.

## The Narrow Scope of Protection Granted in Japan, and Related Problems

In both the United States and Japan, the scope of patent protection that an applicant is seeking is described in the "claims," which serve to distinguish the invention from the prior art. The claims also serve to outline the boundaries of the invention, or the area for which the inventor is seeking exclusive rights. The "specification" section of the application describes the technical details of the invention; it is used to help the examiner

interpret the breadth of the claim. According to many patent experts, JPO examiners are guided by Japanese patent practice to restrict patent claim scope as much as possible, including limiting the scope of protection to the specific examples provided in the application. For example, JPO generally requires the applicant to include specific working examples and the results thereof to support the claims. The examples are supposed to demonstrate a one-to-one correspondence with the claims, and the claims are to be supported by the specific results provided. In contrast, U.S. patent applications generally include broad claims, which U.S. PTO will usually allow even if they are not based on working examples. The scope of the claims in the United States is limited only by the information provided in the specification and the prior art.

Providing strong working examples in Japan is particularly important for applications in the chemical, biotechnology, and pharmaceutical fields because JPO examiners are very strict about requiring actual physical data for all compounds covered by a claim. JPO examiners, unlike those in U.S. PTO, will not accept theoretical or "paper" examples. According to a patent counsel at a U.S. biotechnology firm, this requirement makes it virtually impossible for pioneering inventions in the chemical, biotechnology, and pharmaceutical areas to be adequately protected. In contrast, an invention in the mechanical and electrical fields does not require such strict disclosure of working examples because drawings generally serve to disclose the invention. Therefore, according to some U.S. and Japanese patent attorneys, applications in these areas seem to face fewer prosecution problems in Japan.

## Patent Flooding

Many U.S. patent experts have criticized the Japanese patent system for enabling large firms to force small firms or those without a large patent portfolio into licensing or cross-licensing arrangements. One U.S. patent attorney asserted that Japanese companies use patent flooding as a tactic to force cross-licensing by obtaining patents on numerous and insignificant variations, holding another inventor's basic patent "hostage" with the threat of bringing an infringement action based on the variations.

Several U.S. patent attorneys noted that most U.S. firms would not engage in patent flooding in Japan because (1) they generally do not file improvement patents on other companies' patents, (2) they file for patents in Japan and in other foreign countries only on their most important inventions, and (3) they feel the cost of monitoring competitors' filings and

submitting large numbers of applications would be prohibitive due to the need for translation.

## JPO Has Implemented Changes

In the 1980s, JPO implemented a number of changes in the Japanese patent system. JPO officials say these changes have improved the system. The changes were primarily aimed at reducing the length of time it takes JPO to process patent applications. In addition, JPO has made efforts to alter the way in which the Japanese business community uses the patent system.

### Recent Alterations

In 1988, legislation was enacted in Japan allowing applicants to file more than one claim in each patent application for the same invention. Under the revised law, it is now possible for applicants to file several different claims defining substantially the same inventive concept. Before 1988, Japanese applicants could generally file only one claim for one invention. As previously noted, this practice resulted in the high volume of patent filings by Japanese industry and the large backlog of pending applications at JPO. In the view of one Japanese patent attorney, the new system of multiple claims should enable applicants to seek the broadest possible patent protection.

Due to the delays in processing patent applications at JPO and Japan's deferred examination system, many patent attorneys told us that it is too early to determine how beneficial the multiple-claim system will be in broadening the scope of patent protection granted. According to JPO officials, many Japanese and foreign applicants are already making use of the multiple-claim system. They noted that there was an average of 3.1 claims per application in 1991, compared with 2.7 claims in 1988.

In 1986, JPO introduced procedures to provide accelerated examination of patent applications that meet certain conditions.[3] The main criterion is that the invention is already being "worked," or manufactured in Japan, or is scheduled to be manufactured within 6 months. According to JPO, the accelerated examination system was introduced to "minimize the adverse effects that could accompany a delay in patent examination." If an application is deemed eligible for accelerated examination, JPO is supposed to begin examination immediately and to issue an office action within 4 to 8 months. JPO officials told us that the accelerated examination system has not been widely used to date. In 1991, for example, 343

[3]While JPO does not charge any additional fees for an accelerated examination, Japanese patent attorneys charge higher fees for preparing and filing such an application.

requests for accelerated examination were submitted, 20 of which were made by U.S. applicants.

In 1984, JPO implemented a 10-year plan to establish an electronic application and examination system ("a paperless system"), which was the first of its kind in the world. JPO began operating the electronic application system in late 1990, when it first accepted electronic filing of patent applications. (U.S. PTO is also working to establish an electronic filing system, but it is not expected to begin operating until 1995). Although JPO maintains that the "paperless" system will eventually reduce patent pendency, several Japanese benrishi we interviewed said that the system has not yet had much impact.

## JPO's Campaign to Reduce Patent Filing

In addition to instituting these formal changes in the patent system, several years ago JPO launched a campaign to encourage Japanese companies to reduce the overall number of patent applications they file. As part of this effort, JPO has requested the top management of companies that are the most active Japanese patent filers to improve their oversight of their patent filing. To do so, they are being encouraged to conduct more thorough searches of the prior art and to evaluate the quality of their firm's inventions more stringently, screening out applications of marginal value. JPO has also encouraged applicants to utilize the multiple-claim system to consolidate the applications they file.

JPO officials told us that they believe the campaign to reduce patent filing has been fairly successful; they pointed out that the number of patent and utility model applications[4] filed in Japan decreased from a peak of about 543,000 in 1987 to about 484,000 in 1991. However, this decline mainly reflects a drop in the number of applications filed for utility models and not for patents. As noted earlier, the number of patent applications filed during this time frame actually increased from about 341,000 in 1987 to about 369,000 in 1991. The number of utility model applications filed decreased from about 202,000 in 1987 to about 115,000 in 1991.

## Other Measures to Reduce Patent Pendency

As an additional measure to reduce patent pendency, JPO is considering eliminating the requirement for examination of utility model applications. Under the new system, utility model applications would be published without substantive examination. Implementing this measure would

[4]Utility model patents are those involving the shape or construction of articles or a combination of articles. The term of a utility model patent is 10 years from the date of publication of the examined application, but not more than 15 years from the filing date.

significantly reduce the workload of JPO examiners and the backlog of pending applications. In 1991, utility model applications accounted for 24 percent of the total number of patent and utility model applications filed.

Finally, to further expedite patent processing, JPO has also begun to employ a private, nonprofit agency on a contract basis to conduct patent searches (searches of the prior art conducted during the patent examination). In 1990, the private agency did about 50,000 such searches.

## Japan's Commitments Under the Structural Impediments Initiative

The Structural Impediments Initiative was an effort begun in 1989 by the governments of the United States and Japan to identify and solve structural problems in both countries that hinder trade and balance of payments adjustments. In addressing the issue of patent protection, included in SII's discussions on intellectual property rights, the primary U.S. concern was the amount of time it takes to obtain a Japanese patent. In 1990, the Government of Japan made a commitment to "use its best efforts" to reduce the average patent examination period to 24 months by 1995. According to JPO, the average examination period was 30 months in 1991, down from 37 months in 1988. (As discussed earlier, however, the examination period does not account for the total pendency period in Japan.)

In the SII talks, the United States also raised the issue of increasing the number of patent examiners in Japan. As previously discussed, in 1991 U.S. PTO employed 935 more examiners than JPO, which had more than double the number of applications to examine. In 1989, as a result of SII, the Japanese government increased the number of positions for examiners by 30, representing a 4-percent increase. In 1990, JPO increased its staff by about 5 percent, for a net increase of 42 patent and utility model examiners. According to USTR, however, despite these increases in personnel, JPO is still inadequately staffed.

# Patent Practices of U.S. Firms Can Affect Their Patent Experience in Japan

While some patent problems U.S. firms are experiencing in Japan stem from aspects of the Japanese patent system, others result from U.S. firms' patent practices in Japan. Both U.S. and Japanese patent attorneys told us that a number of the problems encountered by U.S. firms are due to their limited knowledge of the Japanese patent system, translation difficulties, and poor communication between U.S. patent counsel and their Japanese patent representatives.

To address these problems, some U.S. firms have adopted practices that have improved their patent experience in Japan. These strategies include establishing patent offices in Japan, translating their Japanese applications back into English to ensure their accuracy, and tailoring their applications to better conform to the Japanese application style.

## U.S. Firms' Patent Practices in Japan

As noted in chapter 1, foreign applicants must have a Japanese patent representative to prosecute their patents at JPO.

- The majority (56 percent) of firms responding to our survey said they generally filed patent applications in Japan directly through a Japanese patent attorney, or "benrishi." Most of these firms were large, with 1991 annual sales of over $1 billion.
- Thirty-five percent said they generally file indirectly through U.S. law firms (the U.S. patent attorney deals directly with the "benrishi"). Most of these firms had annual sales of less than $1 billion in 1991.
- Nine percent of the respondents said their firm maintained its own patent office or department in Japan. Officials from several of these patent offices told us they employ both American and Japanese staff who are responsible for filing their firm's applications and monitoring patent prosecution at JPO. Most of the U.S. firms with patent offices in Japan were large, with 1991 sales of over $1 billion.

The U.S. firms responding to our survey reported that they employed the following patent practices and strategies in Japan:

- Eighty-seven percent said they file applications in Japan that are virtually the same as their U.S. applications "always" or "most" of the time.
- As a quality check, 28 percent said that their company had the claims portion of their application translated back into English always or most of the time. Thirty-one percent said they never or almost never retranslate their claims back into English or have someone fluent in Japanese review their applications.

- Nineteen percent reported that in the last 5 years, a company official had held an interview with a JPO examiner to discuss an application, while 81 percent said that no one from their company has met with an examiner.
- Seventy-five percent of the responding firms said they had not requested an accelerated examination in the last 5 years. A large majority of these firms said they did not need an accelerated examination, and about one-fourth said that cost was a factor. In general, the firms that requested an accelerated examination were large firms.

The majority of the 58 firms we interviewed said they deferred examination in Japan for about 5 years. (As noted in ch. 1, in Japan applicants have the option of deferring examination of their applications for up to 7 years.) Twenty-seven of the 58 firms said they defer for the full 7 years. The firms cited several reasons for deferring examination, including the desire to (1) further evaluate the commercial value of their product, (2) defer costs, and (3) see how their original applications fare in the United States and other countries.

## U.S. Firms' Patent Practices in Japan Can Cause Problems

Many U.S. and Japanese private and corporate patent attorneys attributed some U.S. companies' patent problems in Japan to their own filing practices. For example, they noted that many U.S. firms do not

- allow adequate time for their Japanese patent attorney, or benrishi, to prepare the Japanese application properly and have it translated accurately;
- tailor their applications to conform to the Japanese application style;
- provide clear guidance to the benrishi prosecuting the application;
- commit adequate time and staff to learning about the Japanese patent system.

## U.S. Firms Often Submit Late Applications to Japanese Patent Attorneys

A JPO official and most of the benrishi we interviewed told us that U.S. applicants often submit applications for filing at JPO only a week or 2 before their priority year deadline.[1] Several benrishi told us that in some cases their U.S. clients have submitted applications only days before the deadline. The limited amount of time permitted between submission and filing at JPO is problematic because applications generally have to be translated into Japanese, and the average length of a U.S. application is 15 to 125 pages. In such cases, the benrishi will divide the application among

[1]As noted in chapter 1, under the Paris Convention, foreign applicants have 1 year after filing in their country of origin to file in member countries without losing their claim to novelty.

a number of translators and consolidate the application just before filing it by the deadline. They acknowledge that this practice often results in applications with numerous translation errors and poor overall coherence.

Many Japanese and U.S. patent attorneys said that foreign clients should decide early in the priority year whether they will file for foreign patents. For Japanese filings, they should submit their applications to their benrishi at least 1 to 2 months before the priority year deadline, thus allowing adequate time for translating and preparing the application. In this way, the benrishi would have time to discuss and clarify technical points and translation questions with the client.

## U.S. Applications Do Not Always Conform to Japanese Application Style

JPO officials told us that U.S. applicants tend to draft their Japanese applications based on U.S. patent law and format, rather than on Japanese patent laws. As a result, JPO examiners frequently have difficulty understanding the claimed scope of the invention as it is presented. According to the benrishi we interviewed, foreign patent applications generally do not require detailed revision to conform to the Japanese patent application style. However, Japanese patent law does contain certain stipulations regarding the manner and content of the specification that differ significantly from U.S. patent practice. Many benrishi told us that the most important differences are that the Japanese application must clearly describe

(1) the "effect of the invention," that is, how the applicant's claimed invention resolves technical problems posed by previously claimed inventions (the prior art), which should be presented in a "problem and solution" approach; and

(2) the "meritorious or advantageous effects" that are obtained by the applicant's claimed invention as compared with previously claimed inventions.

According to JPO officials and benrishi, some U.S. patent applications fail to adhere to Japanese procedure. Common problems they cited include the following:

- The description of the "advantageous effect," or how the disclosed invention is superior to the prior art cited in the application, is missing or unclear.

- The "problem/solution" approach is not used to describe the advantageous effect over the prior art.
- The features of the invention defined in the claims do not demonstrate a clear one-to-one correspondence with the working examples provided.
- The number of working examples provided is insufficient given the number of claims.
- The background, including the description of the prior art, is excessively long and detailed.

U.S. and Japanese patent attorneys told us that foreign applicants are much more likely than domestic applicants to receive office actions or rejections for "insufficient disclosure." A JPO examiner will issue such an office action when the applicant fails to discuss the invention's "advantageous effect" or to use the "problem/solution" method, or when aspects of the disclosure are unclear. One benrishi told us that he will revise U.S. applications to conform to the Japanese application style only if the applicant submits it 3 months before its deadline. He said that only a few U.S. firms submit their applications to the benrishi already in the Japanese format.

As noted earlier, almost 90 percent of the responding companies indicated that most of the applications they file in Japan are virtually identical to their U.S. applications. Several benrishi told us that most of their U.S. clients do not want them to modify their applications to include the "problem/solution" approach before filing them at JPO because of the cost and time involved. Rather, U.S. applicants want them to wait to do so after they receive the first office action from JPO. While this modification can be done, it serves to increase the pendency period.

## Poor Communication Between U.S. Firms and Their Japanese Patent Representatives

Poor communication between U.S. applicants and their Japanese patent representatives appears to be a widespread problem.[2] Many U.S. companies complained that their benrishi were not aggressive enough in representing their companies' interests, especially in their attempts to gain broad patent coverage from JPO. Some U.S. corporate patent counsel also complained that their benrishi did not advise them on how to better tailor their applications to fit the Japanese application style.

On the other hand, several benrishi told us that their U.S. clients fail to clarify their expectations and the amount of work the clients expect the

[2]This section focuses mainly on the practice of U.S. firms that file directly through a Japanese patent attorney ("benrishi") and not those that file through private U.S. patent attorneys.

benrishi to do. For example, one benrishi said he will translate and interpret office actions and prior art citations if the client is willing to pay for the additional translation costs. He added that many of his U.S. clients are unwilling to incur these costs. Moreover, some benrishi noted that their U.S. clients rarely tell them which of their applications they consider to be the most important or give them any guidance on the scope of claims they expect to receive from JPO.

According to many U.S. and Japanese patent attorneys we interviewed, a number of U.S. firms do not actively participate in the prosecution of their Japanese patents. They sometimes delegate too much to their Japanese patent firms, expecting them to devise a filing strategy, produce accurate translations of their applications, and prosecute their cases aggressively at JPO. However, in many instances, they do not appear to give their benrishi clear instructions or guidance on how they would like their applications to be filed. A representative from a Japanese patent firm told us that "too many U.S. applicants leave it all in the hands of their benrishi."

Conversely, the Japanese benrishi we interviewed did not appear to take a proactive role in filing applications for their U.S. clients. Benrishi told us that they will give advice to their clients only when specifically asked. For example, one benrishi said that his firm's strategy for having JPO begin an examination as quickly as possible is to request an examination about 3 years after filing (due to the backlog of applications at JPO). However, he will offer this advice only if the client asks. If, for example, a U.S. client asks that an examination be requested at the time the application is filed, the benrishi will comply. Further, a Japanese patent attorney practicing in the United States acknowledged that some benrishi do not attempt to interpret vague or cryptic JPO office actions for their U.S. clients.

Some U.S. patent attorneys noted that the roles and duties of benrishi differ significantly from those of U.S. patent attorneys. The former will usually only translate and file an application in Japan, whereas the latter will generally take a more proactive role, rewriting an application to conform to the U.S. style and actively advising the client about filing.

A factor that may contribute to the perceived passivity of some benrishi is that in Japan, a civil servant, such as a JPO examiner, holds an esteemed position in society. Accordingly, a benrishi will tend to defer to the examiner and not to challenge or aggressively press him, leading some U.S. clients to question whether the benrishi is truly representing their interests. Another factor may be that benrishi have a fixed fee schedule,

which may discourage them from performing additional, unsolicited services.

## Translation Problems

Many U.S. patent attorneys identified the translation of a U.S. application into Japanese as another key area in which U.S. patent counsel should provide greater oversight. Under Japanese patent law, translation errors cannot be corrected if such a correction is deemed to change the gist of the invention. According to JPO officials, U.S. applications frequently contain translation errors. In fact, some U.S. patent attorneys identified language as "the biggest barrier" in the Japanese patent system. One patent attorney admitted that his company was not aware of translation errors in its Japanese applications until the company entered into licensing negotiations in Japan.

One corporate patent counsel described a patent infringement case involving a chemical patent that contained a translation error in the patent application. The translator had misunderstood the element "boron" and translated it as "bromine." The patent holder lost the case because of this translation error. Although the patent holder appealed the ruling, the attorney said that the appeal was denied because under Japanese patent law, a patent examiner must recognize from the invention's description that the language used is clearly in error in light of the rest of the application.

A Japanese patent attorney had the following suggestions for minimizing the chances for such translation errors: (1) use English terminology in brackets after the Japanese translation of important terms so that corrections can later be made relying on the English word and (2) disclose the invention fully in drawings where appropriate.

A U.S. patent attorney who is fluent in Japanese told us that he sees translation errors in most U.S. applications he reviews, regardless of the size of the firm or the patent's importance to the firm. He gave an example of how the language difference has presented difficulty:

- There is no singular or plural form in Japanese. To properly translate "a pencil with an eraser" into Japanese, a benrishi suggested that the word "singular" be added to modify "eraser." However, the U.S. patent attorney thought that this addition narrowed the claim and refused to make the change. As a result, the JPO examiner found the description ambiguous and rejected the claim.

change. As a result, the JPO examiner found the description ambiguous and rejected the claim.

This U.S. patent attorney's recommendation to his clients is to have their applications translated into Japanese in the United States, which he will review before sending the applications to Japan. While he admits this solution is costly, he believes it is important that the U.S. attorney have greater control of the translation. As previously noted, some U.S. companies do see a need for verifying the quality of their benrishi's translation of their applications. Among the responding companies, 28 percent reported that they had at least the claims portion of their Japanese application translated back into English by a translation service outside their benrishi's firm always or most of the time. Another 6 percent reported that they had someone fluent in Japanese (outside their benrishi's firm) review their application always or most of the time.

## U.S. Firms Do Not Emphasize Mastering the Japanese Patent System

While not discounting the structural and cultural factors that hinder foreign patent applicants in Japan, some U.S. patent experts acknowledged that U.S. firms have been slow in making foreign patent filing a priority. In their opinion, since the United States has been the dominant world market for decades, most U.S. firms have tended to focus on domestic patent filing: foreign filing has been treated as secondary. As a result, until recently many U.S. companies have placed little emphasis on foreign patent filing. Some U.S. patent counsel acknowledged that they are not very familiar with patent prosecution in Japan or with the Japanese judicial system.

In contrast, because Japanese firms have always looked to overseas markets, especially the United States, they have invested heavily in learning about foreign patent practices, particularly the U.S. patent system. U.S. patent attorneys noted that Japanese companies take a very active role in pursuing U.S. patents and in monitoring patent activity worldwide. As a result, they have committed significant time to understanding U.S. patent law and U.S. patent prosecution and enforcement matters. For example, large Japanese companies generally send one or two benrishi or other patent department staff to the United States each year to serve as apprentices in intellectual property law firms for an average of 6 months to 2 years. These Japanese apprentices will usually work on preparing their own companies' applications for filing at U.S. PTO. In contrast, the U.S. firms we interviewed generally had not sent patent attorneys to Japanese patent law firms to learn about the Japanese patent system.

## Some U.S. Firms Have Adopted Strategies That Improved Their Patent Experience in Japan

Table 4.1, an analysis of survey responses, shows the number and percentage of U.S. firms that asserted that certain strategies or practices had improved their patent experience in Japan.

**Table 4.1: Firms' Views Regarding Actions That Improved Their Patent Experience in Japan**

| Action taken | Number of responding firms taking action | Number of firms reporting action improved patent experience | Percent of firms reporting action improved patent experience[a] |
|---|---|---|---|
| Maintain a company patent office in Japan | 26 | 19 | 73 |
| File patent applications directly through a Japanese patent attorney | 155 | 89 | 57 |
| Own subsidiaries or manufacturing facilities in Japan | 144 | 54 | 38 |
| Have most applications reviewed by someone fluent in Japanese | 19 | 7 | 37 |
| Have great/very great activity conducting business arrangements with Japanese firms in the last 5 years | 104 | 35 | 34 |
| Translate most patent applications or claims back into English | 77 | 24 | 31 |

[a]These percentages include only the firms that responded that they utilize these particular patent practices in Japan.

Source: GAO survey of U.S. companies.

## Specific Firms' Strategies

Officials at a major U.S. computer firm described their company as successful in its efforts to secure patent protection in Japan. They attributed the firm's success to a number of factors, including establishing a large presence in the Japanese market and maintaining a network of business ties with Japanese companies with whom it licenses and cross-licenses technology. In addition, company officials identified several

strategies they believe have improved their experience in obtaining patents in Japan. These actions included establishing a company patent office in Japan about 25 years ago, staffed with 50 Japanese nationals who regularly hold interviews with JPO patent examiners. According to company officials, prosecuting their patents in-house allows the inventing group to explain the technology to their patent attorneys and to work closely with them. The firm also tailored all its applications to conform to Japanese practice, including modifying or deleting claims when necessary.

In 1989, JPO recognized this U.S. firm with an award for excellence in the quality of its Japanese patent applications. The award was given for the first time to a non-Japanese company.

The corporate patent counsel at another U.S. firm, which maintains a patent office in Japan staffed by six Japanese nationals, told us that his firm performs an annual management review of this office. In addition, to oversee the firm it employs for translations, the company administers a standard exam to all translators before they are assigned to work on the company's applications. According to the company official, taking these actions ensures that their translators understand the "vocabulary of their technology." The official believes these actions have improved the overall quality of translations.

## Working With Japanese Business Partners Has Helped Some Companies

Of the companies that had great business activity in Japan, 34 percent reported that these business ties improved their patent experience. Thirty-eight percent that reported having a direct business presence in Japan said it had improved their patent experience. Some U.S. patent attorneys told us that U.S. firms that have business ties with Japanese firms generally have a better patent experience in Japan. Further, one U.S. patent attorney explained that the quickest way to achieve priority status in the backlog of cases at JPO is to work an invention in Japan through a Japanese joint venture partner or a licensee. However, based on interviews with U.S. firms that have ties with Japanese firms, it appears that the majority do not seek advice or assistance from their Japanese business partners. Companies that did seek assistance from their business partners said they received advice on patent strategy and on selecting benrishi to prosecute applications. They also received other benefits, such as having the Japanese partner hold interviews with JPO examiners. For example, one corporate patent counsel told us his firm's Japanese business partners have helped them in Japan in many ways, including selecting Japanese patent attorneys for enforcing patents, providing advice on prosecuting

patents, and monitoring Japanese competitors' applications and research activities. Also, the patent counsel at a major U.S. chemical firm said his firm's joint venture partners and licensees played a big role in helping them to secure patent protection. For example, their partners have helped them identify and address prior art citations, have suggested terminology to be used in applications, have explained where their applications are in the prosecution process, and have offered interpretation of JPO office actions when needed.

## Interviews With JPO Examiners Have Improved Some Firms' Experience

According to some benrishi and U.S. patent counsel, it is beneficial for U.S. company officials to hold interviews with JPO examiners, particularly for important or problematic patent applications. Many U.S. patent counsel indicated that the interviews they have had with JPO examiners have helped their cases significantly, giving the U.S. inventor or attorney the opportunity to refine their responses to examiners' questions and to explain their inventions further. Moreover, JPO officials told us that their examiners feel honored when a U.S. company representative has gone to the effort of meeting with them and discussing his or her invention.

In the 1980s, JPO began encouraging interviews between examiners and applicants. However, according to JPO officials, few U.S. applicants meet with JPO examiners. As noted earlier, 81 percent of the firms responding to our survey said that no one from their company had met with a JPO examiner in the past 5 years.

# U.S. Firms' Experience in Enforcing Patents in Japan

According to several Japanese patent attorneys, the Japanese legal system poses more difficulties for a plaintiff in an infringement case than does the U.S. legal system. The difficulties in bringing infringement actions in Japan include the lack of discovery,[1] the length of court proceedings, the narrow interpretation of patent claims, the difficulty in obtaining preliminary injunctions, business risks associated with the Japanese aversion to litigation, and the logistics of pursuing a suit in Japan. According to U.S. corporate and private patent attorneys, patent holders have a harder time enforcing patents in Japan than in the United States due to these difficulties. This partly explains why the number of patent infringement suits brought in Japan is significantly lower than the number of suits brought in the United States. Some of the U.S. company officials we interviewed said that the problems they experienced in enforcing their patents in Japan had adversely affected their companies.

## Specific Difficulties Encountered

Some of the difficulties U.S. firms have experienced in enforcing their patents in Japan stem from the differences in U.S. and Japanese substantive law and in civil procedure. For example, Japan has virtually no discovery procedures, compared with the discovery permitted in the United States. Further, court proceedings in infringement suits in Japan are generally more lengthy than those in the United States. In addition, the Japanese courts interpret the scope of patent claims more narrowly than courts in the United States. Other problems in bringing infringement actions in Japan include the difficulty in obtaining preliminary injunctions, the inadequate damages awarded, the fact that litigation is viewed with disfavor in Japan, and the logistics problems.

## Lack of Discovery

Like some European countries, Japanese law does not provide for discovery. While almost all the attorneys we spoke with, both in the United States and Japan, agree that discovery procedures dramatically increase the cost of litigation, they acknowledge that discovery is helpful and often necessary to prove that infringement has occurred. It is particularly difficult to prove infringement without discovery in the case of a "process" patent (a patent concerning the mode of treatment of certain materials to produce a certain result; it applies to a new method of making an article). Without access to the alleged infringer's plant or documents, demonstrating that a certain process is being used to produce a product is hard.

[1]"Discovery" refers to legal procedures that can be used by one party before a trial to obtain facts and information about the case from the other party in order to assist in preparation for the trial.

Fourteen of the 58 U.S. firms we interviewed had filed patent infringement cases in Japan. Of these, six said the lack of discovery was a "great" or "very great" problem. One Japanese patent attorney told us that his U.S. clients are reluctant to file infringement suits in Japan because of the lack of discovery. Furthermore, representatives from one large chemical company and one semiconductor company said the lack of discovery had affected their firms' decisions not to bring infringement suits involving processes in Japan. One pharmaceutical company representative told us his firm was only able to prove infringement in a process patent case in Japan because it had developed a technology that allowed the firm to analyze the infringer's final product to identify the process that was used.

## Lengthy Court Proceedings

Patent infringement proceedings in Japan generally take longer than those in the United States. According to several patent attorneys, infringement cases usually take 3 to 9 years to conclude in Japan as compared with 2 to 3 years in the United States. Of the U.S. firms we interviewed, 11 out of 14 that had tried to enforce their patents in Japan said that the Japanese legal system for infringement suits was slower than the U.S. legal system. Two U.S. corporate patent attorneys said their firms have recently been involved in infringement cases in Japan that have gone on for more than 10 years. Moreover, several company representatives told us they were reluctant to file infringement suits in Japan because of the lengthy court proceedings.

A major reason for the lengthy patent infringement suits in Japan is the manner in which such suits are conducted. Typically, an infringement suit in Japan consists of a series of hearings held once a month lasting only a few minutes each. During that time, written arguments are submitted to the court, and a date for the next hearing is determined. Occasionally, some oral arguments are presented, but most of the evidence is submitted in writing. Further, unlike in the United States, Japanese courts do not have the authority to rule on patent validity. If this validity is challenged, the case is reviewed by JPO in a separate proceeding. In addition, according to a Japanese attorney, judges assigned to patent cases in Japan may be transferred before a decision is reached, thus further delaying the proceedings.

## Japanese Courts Interpret Claims Narrowly

Japanese courts generally give a more narrow interpretation of a patent's claims than do courts in the United States. One Japanese patent attorney commented that Japan has in practice the strictest system of claim interpretation of any of the leading industrial countries. Patent

infringement litigation often focuses on the scope of the patent's claim in order to determine whether the defendant's product or process falls within that scope. Thus, the court's interpretation of the scope of a claim is often critical in a patent infringement case. According to several U.S. patent attorneys, the Japanese courts' narrow interpretation of claims enables companies to make minor changes to other companies' patented products or processes without being found to infringe on them.

Related to the narrow interpretation of claims is the fact that Japan has virtually no "doctrine of equivalents"[2] as that term is used in the United States. In the United States, the doctrine of equivalents is used to broaden the interpretation of the scope of the claimed invention to cover allegedly infringing products or processes outside the wording of the claim, if those products or processes perform substantially the same function in substantially the same way to obtain the same result. In contrast, Japanese courts tend to adhere more strictly to the literal interpretation of a claim.

According to many U.S. patent attorneys, moreover, patent enforcement in the United States has been strengthened by the 1982 establishment of the U.S. Court of Appeals for the Federal Circuit (CAFC). This court hears patent-related appeals. In its rulings, CAFC has been viewed as broadly interpreting patent claims and as generally favoring the rights of patent holders.

## Difficulty Obtaining Preliminary Injunctions

Infringement actions often involve requests by the plaintiffs for a "preliminary injunction"—a court order granted at the beginning of a lawsuit to prevent the defendant from doing or continuing some act, the right to which is in dispute. The injunction may be discharged or made perpetual as soon as the rights of the parties are determined when the case is resolved. In general, U.S. firms have not had much success in obtaining preliminary injunctions in Japan. While permanent injunctive relief is available as part of the "main infringement" action, preliminary injunctions in Japan can only be obtained through a separate, specialized legal action. This separate case can run "parallel" to the main action. Preliminary injunction cases typically include numerous hearings spaced out every 3-4 weeks until the judge feels sufficient arguments have been made. This process usually takes 18 to 24 months.

[2]The doctrine of equivalents is a judicially developed equitable remedy available to a patent holder to use against one who uses the essence of the patented invention but who does not literally infringe the patent.

Of the 14 U.S. firms we interviewed that had filed patent infringement suits in Japan, nine said that obtaining a preliminary injunction in Japan was more difficult than in the United States. One U.S. patent attorney told us that preliminary injunctions are rarely used in Japan and could take up to 3 years to obtain. He also said that, because of the cultural proclivity toward settlement in Japan, these injunctive hearings are often spread out to intervals of 8-16 weeks, giving the parties time to reach an agreement before a preliminary injunction is granted. Another U.S. patent attorney said it is virtually impossible to get a preliminary injunction; without one, it is difficult to stop the infringement. One U.S. patent attorney gave an example of a U.S. drug company that dropped a 6-year infringement suit in Japan. He said that by the time the company had received an injunction, it had lost so much of its market that it decided to abandon the product. One U.S. firm, however, recently received a preliminary injunction in Japan 3 years after filing.

## Inadequate Damages

The amount of damages awarded in Japan is generally less than that awarded in the United States. Damages in Japan can be awarded on the basis of either lost profits or a reasonable royalty, i.e., the value of a license in Japan. However, in practice, damages awarded in Japan are usually based on a reasonable royalty because of the difficulty in determining lost profits without using discovery procedures. As a result, one patent counsel noted that a company would be better off settling with an infringer in Japan and negotiating a license than pursuing litigation. Further, there are no treble damages[3] or attorney fees awarded in Japan as are sometimes available in the United States in patent infringement actions. Several patent attorneys told us that the damages awarded in Japan are so low that the suits are often not worth the associated costs.

## Litigation Viewed With Disfavor in Japan

According to Japanese patent attorneys, litigation of any sort is viewed as an extreme action in Japan. In general, Japanese companies rarely sue one another. Infringement suits are usually a matter of last resort and are viewed as damaging to business relations. When infringement occurs, the parties will almost always negotiate a settlement rather than enter into litigation.

Litigation, however, is more common in the United States; many U.S. firms are regularly involved in litigation as a plaintiff or defendant. Thus, little

[3]"Treble damages" are three times the amount of compensatory damages.

business risk is associated with bringing an infringement action in the United States.

## Logistical Problems of Bringing a Suit in Japan

Logistical factors complicate bringing a suit in Japan, as the time and costs associated with travelling to Japan are significant. In addition, the distance, language, and cultural differences can thwart communications, as can the dissimilarities in U.S. and Japanese civil procedures. Further, U.S. firms seeking to litigate in Japan must retain a Japanese general attorney, or "bengoshi."[4] According to some Japanese patent attorneys, it is more difficult to find a good attorney in Japan than in the United States because there are far fewer Japanese bengoshi than there are U.S. attorneys—15,000 bengoshi compared with more than 700,000 U.S. attorneys.

## More Infringement Suits in the United States Than Japan

Litigation is pursued in the United States more frequently than in Japan. For example, in 1990, there were 1,236 patent infringement suits filed in the United States as compared with 141 filed in Japan.

Overall, the U.S. firms responding to our survey had filed more infringement suits in the United States than in Japan or Europe. In each of the three jurisdictions, the majority of the responding firms had filed fewer than two suits in the past 5 years. Fifty-six percent of the firms had filed a patent infringement suit in the United States in the last 5 years. In comparison, within the same time frame, 7 percent had filed an infringement suit in Japan, and 24 percent in Europe. Further, 29 percent had filed three or more suits in the U.S. courts compared with 2 percent that had filed three or more suits in Japan.

## Effect of Enforcement Problems on Companies

The difficulties associated with enforcing patents in Japan have adversely affected some of the U.S. firms we interviewed. Approximately 20 percent of the responding firms indicated they had experienced infringement problems in Japan but had not filed infringement suits in the Japanese courts. The most common reasons they cited for avoiding litigation in Japan were (1) the amount of time it takes to conclude cases, (2) the cost and difficulty of managing a suit in Japan, and (3) the lack of familiarity with the Japanese legal system.

Of the 14 firms we interviewed that had filed infringement suits in Japan, several corporate patent counsel told us their firms had suffered from

[4]As differentiated from a "benrishi," who is a patent attorney.

some of the of following problems associated with enforcing patents in Japan:

- A representative from a large chemical company said his firm had filed a patent infringement suit in Japan in 1980. After 10 years of litigation involving 30 hearings, there appeared to be no prospect of receiving a decision. The company representative said that the judge pressured his firm to settle the case for a very low royalty. The U.S. firm subsequently decided to drop the suit in exchange for a 0.5-percent royalty. According to the company official, another licensee was paying a 25-percent royalty for use of this patent.
- An official from another company told us that his firm had filed an infringement suit on a chemical process patent in Japan in the early 1980s. He said that three sets of judges and three sets of appeal examiners have been assigned to the case since it began. However, the biggest problem his firm has had in proving infringement has been the lack of discovery procedures. The suit is still ongoing.
- A representative from another company said his firm was forced to settle an infringement suit in Japan because by the time it reached trial, the patent term in Japan had expired.

# Progress in Working Toward International Patent Harmonization

The United States is currently involved in two sets of multilateral negotiations on intellectual property rights: the Uruguay Round of GATT, which includes negotiations on intellectual property issues; and a patent harmonization treaty through WIPO, a United Nations agency based in Geneva. The proposed GATT agreement would require some changes in the U.S., European, and Japanese patent systems, but the current GATT negotiations were at a stalemate as of mid-1993. A harmonization treaty, by contrast, would require fundamental changes in the patent laws governing the U.S. and Japanese patent offices, and to a lesser extent in the patent laws governing EPO. U.S. PTO officials view the multilateral efforts in GATT and WIPO as instrumental in achieving strengthened patent protection worldwide.

Currently, Japan is considering major revisions in its patent system within the context of ongoing multilateral negotiations to harmonize patent systems. The changes being contemplated include allowing filing in a language other than Japanese, eliminating the pre-grant opposition system, and applying a doctrine of equivalents in patent infringement suits. A majority of the U.S. companies responding to our survey indicated that most of these changes would improve their patent experience in Japan.

The United States is also considering a number of changes in its patent system within the context of international patent harmonization, most notably the adoption of a first-to-file system and publication of all patent applications after 18 to 24 months. About two-thirds of the U.S. companies responding to our survey supported these changes in the U.S. patent system in the context of a harmonization treaty. Many companies said, however, that they would not approve of changes in the U.S. patent system without agreement from Japan to make significant alterations in its patent system as part of a harmonization effort.

## GATT Negotiations Seek to Establish a Minimum Level of Patent Protection Worldwide

At the urging of the United States, standards to protect intellectual property were introduced into the ongoing Uruguay Round negotiations of GATT that began in September 1986.[1] Negotiations among GATT members on intellectual property issues resulted in a proposed agreement in 1991, called the agreement on Trade-Related Aspects of Intellectual Property Rights—commonly referred to as "TRIPS." If a final GATT accord is reached that includes the current draft TRIPS proposal, it would establish minimum standards of patent protection and enforcement worldwide.

[1]The Uruguay Round concurrently includes negotiations on 14 other trade-related subjects such as agriculture, textiles, and services.

According to GATT officials, the proposed GATT TRIPS accord is primarily aimed at getting developing countries to strengthen their protection of intellectual property. However, if a final agreement is reached, the TRIPS accord would also require some changes in U.S., European, and Japanese patent laws and procedures. Some of the most significant changes called for in the three systems are shown in table 6.1.

**Table 6.1: Fundamental Changes Required in European, Japanese, and U.S. Patent Procedures Upon Ratification of GATT TRIPS Accord**

| Proposed GATT TRIPS article | Change required in EPO? | Change required in JPO? | Change required in U.S. PTO? |
|---|---|---|---|
| Allow for limited discovery procedures in patent infringement cases | [a] | Yes | No |
| Prohibit discrimination in awarding patents based on where inventions were made | No | No | Yes |
| Grant patent protection for 20 years from filing date | No | Yes | Yes |

[a]As noted in chapter 1, EPO grants a bundle of individual patents, each of which is valid in countries designated by the applicant. Thus, procedures used in infringement suits vary according to national laws. According to GATT officials, while the United Kingdom has some discovery procedures, some European countries, such as France and Germany, currently have no provisions for discovery in their national patent laws. Therefore, these countries may have to allow for limited discovery upon the ratification of GATT TRIPS.

Source: Data provided by EPO, GATT, and U.S. PTO officials.

According to several U.S. patent attorneys, the provision in the draft TRIPS proposal that relates most specifically to Japan is that involving discovery procedures in patent infringement suits. As noted in chapter 5, discovery procedures are currently not available to plaintiffs in infringement actions in Japan. According to a U.S. PTO official, however, the draft TRIPS proposal calls for countries to permit plaintiffs to have limited evidence-gathering ability in infringement actions, rather than the extensive discovery procedures that are available in the United States.[2] Some Japanese patent attorneys told us that it is unclear what type of discovery procedures would be permitted in Japan if the TRIPS proposal were adopted.

[2]Under the TRIPS discovery provision, "[J]udicial authorities shall have the authority, where a party has presented reasonably available evidence sufficient to support its claims and has specified evidence relevant to substantiation of its claims which lies in the control of the opposing party, to order that this evidence be produced by the opposing party, subject in appropriate cases to conditions which ensure the protection of confidential information."

Another proposed TRIPS article prohibits discrimination in patent rights regarding the place of the invention. This provision may require the United States to modify section 104 of title 35 of the United States Code; under section 104, foreign inventive activity is disregarded in determining which of several inventors is the first to invent. (This requirement would no longer be an issue if the United States moves to a first-to-file system.) All of the European firms we interviewed stated that section 104 is discriminatory toward foreign filers. Another TRIPS provision would require both JPO and U.S. PTO to change their terms of patent protection to 20 years from the filing date.[3]

The Uruguay Round of GATT is currently in a stalemate pending the resolution of certain issues between the European Community and the United States. If these issues are resolved, GATT Secretariat officials anticipate that the TRIPS text will not be revised.

## WIPO Patent Harmonization Negotiations

WIPO's efforts to harmonize the world's patent laws began in the 1980s. The purpose of the harmonization effort is to develop a treaty that will simplify and expedite the process of obtaining patent protection around the world and to strengthen protection once granted. According to WIPO's Deputy Director General, a harmonized world patent system is essential because companies around the world are increasingly turning toward global markets; thus, in his view, the differences between national or regional patent systems may increasingly act as a trade barrier as well as an impediment to inventors.

Unlike the GATT TRIPS negotiations, WIPO's harmonization negotiations are viewed primarily as a forum to resolve differences among the patent systems of the developed countries. In fact, WIPO officials anticipate that the only countries that would be signatories to the WIPO treaty would be the United States, Japan, and most European countries.

## History of WIPO Harmonization Efforts

Between 1984 and 1990, WIPO sponsored a series of meetings to discuss eliminating differences among national and regional patent laws. The initial purpose of the harmonization effort was to study the establishment of a grace period in Europe. However, WIPO officials subsequently determined that they could not address the issue of the grace period alone

[3]As noted in chapter 1, at present, patents issued by JPO are valid for 15 years from the date the application is published for opposition, but not more than 20 years from the date the application was filed. Patents issued by U.S. PTO are valid for 17 years from the date the patent is issued.

because it involved related issues such as whether the first-to-file principle should prevail over the first-to-invent principle.

During the 6 years of deliberations, the scope of the proposed harmonization treaty expanded to address many patent procedures, which diverged greatly among regional and national patent laws. WIPO established a committee to study patent harmonization. The committee completed its preparatory work in November 1990 and drafted a proposed treaty in December. In June 1991, a diplomatic conference on patent law harmonization was held in The Hague to review and refine the draft treaty. However, formal decisions on finalizing the treaty's text were put off until the second session of the diplomatic conference. The second session, scheduled for July 1993, has been postponed indefinitely, primarily because of the change in administrations in the United States.

## Major Provisions in the Draft WIPO Treaty

The draft WIPO treaty would require fundamental changes in U.S. and Japanese patent laws and procedures, and to a lesser extent in the patent laws governing EPO. The proposed treaty calls for patent procedures that generally are closest to existing procedures used by EPO. For example, it seeks the adoption of a worldwide first-to-file system, publication of all patent applications, and a post-grant rather than a pre-grant opposition system. Table 6.2 shows the most significant changes that the draft treaty would require in the three patent regimes.

Table 6.2: Articles in Draft WIPO Treaty Requiring Significant Changes in the European, Japanese, and U.S. Patent Systems

| Articles in draft WIPO treaty | Change required in EPO? | Change required in JPO? | Change required in U.S. PTO? |
|---|---|---|---|
| Accept filing in any language (original language version would be the ruling document) | Yes[a] | Yes | No |
| Change from pre-grant to post- grant opposition system | No | Yes | No |
| Adopt a 12-month grace period | Yes | Yes | No |
| Adopt a 3-year maximum deferral of examination | No | Yes | No |
| Complete patent examination within 2 years | No | Yes | No |
| Apply a doctrine of equivalents in patent infringement suits | No | Yes | No |
| Adopt a first-to-file system | No | No | Yes |
| Publish applications after 18-24 months | No | No | Yes |

[a]EPO only accepts filings in English, French, or German.

Source: Data provided by U.S. PTO, JPO, EPO, and WIPO officials.

Thus, the treaty would require two fundamental changes in the U.S. patent system: the abandonment of the first-to-invent approach and publication of all patent applications after 18 to 24 months.

## Japan Supports Adoption of Some Provisions in GATT Proposal and Draft WIPO Treaty

Within the context of ongoing multilateral patent harmonization negotiations, Japan is considering several major revisions in its patent system. In 1991, the Ministry of International Trade and Industry's Industrial Property Council began reviewing Japanese patent law and practices. It also started considering provisions included in WIPO's draft harmonization treaty and the proposed GATT TRIPS agreement. In a report issued in July 1992, the council stated that the Japanese patent system "should respond to the globalization of economic activities and should provide comprehensive protection to advanced technologies." The council recognized the need for internationally harmonized patent systems and

practices in light of the wider dissemination of advanced technology worldwide and shorter product life cycles.

The council report recommended consideration of several changes in the Japanese patent system, including (1) the allowance of filing in any language, (2) the elimination of the pre-grant opposition system, and (3) the allowance of a 20-year patent term from the filing date. The report stated that some of these changes would be contingent on the U.S. adopting such provisions included in WIPO's draft harmonization treaty as (1) instituting a first-to-file system, (2) publishing patent applications, and (3) adopting a 20-year patent term from the filing date.

JPO officials told us that they support most of the changes in the draft WIPO treaty and the proposed GATT agreement. However, they said that they did not believe that the proposed WIPO treaty should include the provision regarding the time limit for completion of a patent examination. JPO officials said that there is no need to impose the 24-month cap on the examination period since Japan has already pledged to accomplish this goal by 1995 under SII.

The JPO officials reiterated that they would not make the changes called for in the harmonization treaty, such as eliminating the pre-grant opposition system, unless the United States agrees to (1) adopt a first-to-file system, (2) publish applications before they are granted, and (3) institute a 20-year patent term.

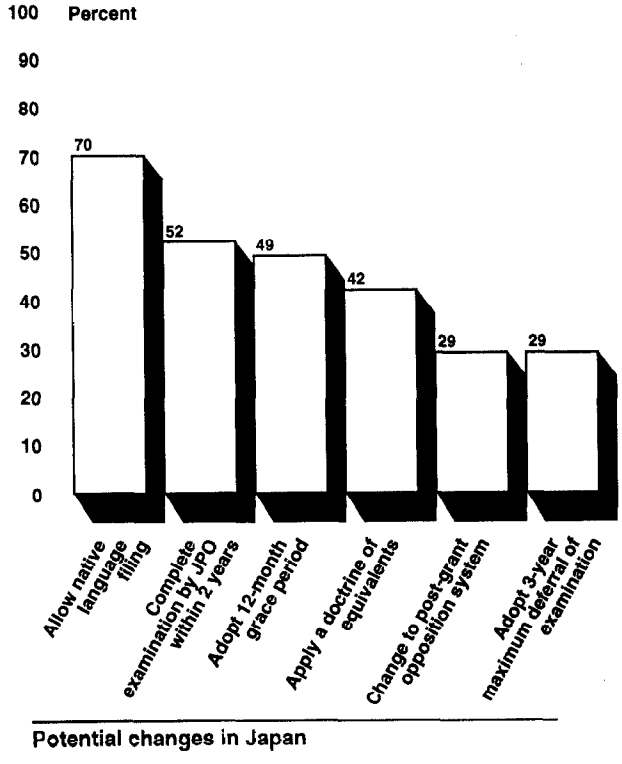
## U.S. Government Views of Changes in Japanese Patent System Under Harmonization

According to U.S. government officials, the changes in the Japanese patent system brought about by a harmonization treaty would benefit U.S. industry. Such changes include (1) the ability to file initial applications in English and to rely on the English-language original when errors are found in the translations, (2) the completion of patent examinations within 2 years, (3) the elimination of pre-grant oppositions, (4) the establishment of a 12-month grace period, and (5) the application of a doctrine of equivalents in patent infringement suits. In the WIPO negotiations, the U.S. government has urged the Japanese government to address these issues expeditiously.

## U.S. Companies' Views on Changes in Japanese Patent System Under Harmonization

We asked the U.S. companies we surveyed for their views on whether certain changes in the Japanese patent system under harmonization would improve their patent experience in Japan. As shown in figure 6.1, the largest number of companies (70 percent) said that the allowance of initial filing in English (and the ability to rely on the English-language original when errors are later found in the translations) would improve their patent experience in Japan to a "great" or "very great" extent. Conversely, less than a third of the companies said that eliminating pre-grant oppositions in Japan or adopting a 3-year maximum deferred examination system would improve their patent experience to a great or very great extent.

**Figure 6.1: Percent of Firms Viewing Potential Changes to Japanese Patent System Under Harmonization as Improving Their Patent Experience**




Source: GAO survey of U.S. firms.

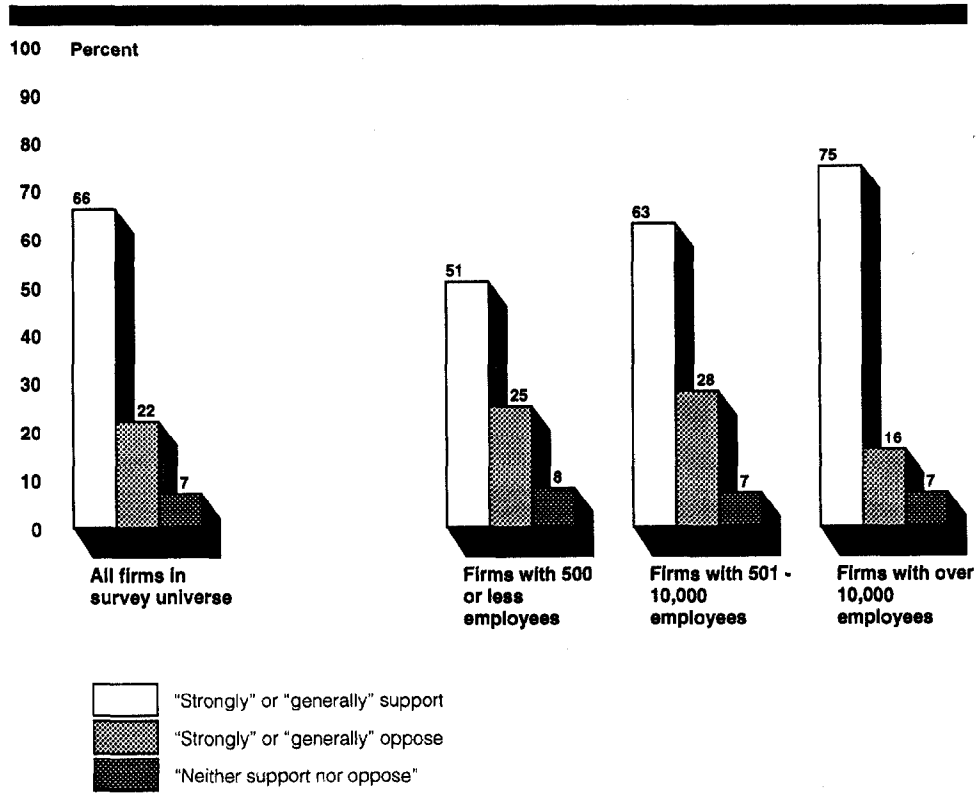
## Changes in the U.S. Patent System Under a Harmonization Treaty

In 1990, the Secretary of Commerce established a commission, known as the Advisory Commission on Patent Law Reform, to study ways to strengthen the U.S. patent system to foster U.S. competitiveness. In addition to studying aspects of the U.S. patent system, the commission examined harmonization issues addressed in the GATT TRIPS proposal and the draft WIPO treaty. In September 1992, the commission issued a report to the Secretary of Commerce recommending several changes in the U.S. patent system in the context of a harmonization treaty, including (1) adoption of a first-to-file system, (2) publication of patent applications after 24 months, and (3) adoption of a 20-year patent term measured from the filing date.

We asked the U.S. companies we surveyed whether they would support or oppose having the United States adopt a first-to-file system in the context of a patent harmonization treaty. As shown in figure 6.2, 66 percent of all the responding companies either "strongly" or "generally" supported adoption of such a system, while 22 percent strongly or generally opposed it.[4] Although companies with more than 10,000 employees were most supportive of a move to the first-to-file system, a majority of companies of all sizes supported the adoption of such a system.

[4]The issue of moving to a first-to-file system has generated considerable controversy in the United States. Many individual inventors and small companies are vigorously opposed to the first-to-file system because they believe it would limit their ability to obtain patents and increase their costs. Resistance to the United States' adopting a first-to-file system may hinder patent harmonization efforts, as other WIPO member countries have said that they would not be willing to make changes in their patent systems under harmonization unless the United States agrees to move to the first-to-file system.

**Figure 6.2: Percent of Firms Supporting Adoption of First-To-File System**




Source: GAO survey of U.S. firms.

Sixty-four percent of the responding companies also either strongly or generally supported the United States' publishing patent applications after 18 to 24 months, while 21 percent were generally or strongly opposed.

Many companies told us that they would not support changes in the U.S. patent system unless Japan agreed to make significant changes in its patent system as part of a harmonization effort.

## Success of Draft Harmonization Treaty May Hinge on Outcome of GATT TRIPS Proposal

GATT's proposed TRIPS agreement and WIPO's draft harmonization treaty are complementary. Both accords share similar objectives—to strengthen protection and improve enforcement of intellectual property rights, such as patents, through multilateral mechanisms. The proposals are also mutually dependent. According to GATT Secretariat officials, while TRIPS is not necessarily a prerequisite for a ratified WIPO treaty, a ratified GATT TRIPS would strengthen WIPO's draft treaty. However, according to several U.S. patent attorneys, the success of WIPO's harmonization treaty is highly dependent upon the successful outcome of GATT TRIPS because if the latter fails there would most likely be pressure to include some of the TRIPS' provisions in the WIPO treaty. In the view of some attorneys and U.S. PTO officials, TRIPS' failure could ultimately compromise the WIPO effort because, unlike GATT, the WIPO negotiation has no concessions to offer developing countries. Moreover, WIPO officials told us that they may not resume the harmonization treaty negotiations until the Uruguay Round is concluded.

# GAO Survey on Patent Experience: Japan, Europe, and the United States

United States General Accounting Office

## Survey on Patent Experience: Japan, Europe, and the United States

### Introduction

The U.S. General Accounting Office (GAO), an independent agency of Congress, is reviewing patent protection for U.S. products in Japan as compared to in Europe and the United States. Congress has requested that GAO examine the experiences and views of firms filing patents in these jurisdictions.

Your participation in this survey is very important. GAO will report to Congress on the results of the survey. If your firm does not file patents in Japan, please complete Question 1 and return the survey in the enclosed envelope.

The questionnaire should be answered by the person most familiar with your company's patent experience in Japan. If possible, the person completing the survey should be located in the United States rather than overseas.

The questions can be answered by checking boxes or filling in blanks. The questionnaire should take about 30 minutes to complete. Space has been provided for additional comments at the end of the questionnaire.

Your responses will be treated **confidentially** and will not be used in any way that will identify you or your organization. The questionnaire is numbered only to aid us in our follow-up efforts. Please return the completed questionnaire in the enclosed pre-addressed, pre-paid envelope within 10 working days of receipt. In the event the envelope is misplaced, please mail the completed questionnaire to:

U.S. General Accounting Office
Ms. Elizabeth Sirois
441 G Street, N.W., Room 5492
Washington, D.C. 20548

If you have any questions, please call Elizabeth Sirois at (202) 275-8989, Mary Park at (202) 275-4843, or Taylor Winston at (202) 275-9621.

Thank you for your help.

* * * * *

### A. Patent Filing in Japan and Europe

1. Did your company file any patent applications in Japan in the past 10 years (from January 1, 1982 to December 31, 1991)?

   *(Include applications filed directly by your company and applications filed for your company by a Japanese patent agent.)* **(N=300)**

   1. [ **92.3 %** ] Yes *(Continue to Question 2.)*
   2. [ **7.7 %** ] No *(See box below.)*

   Why did your firm not file patents in Japan? *(Please explain briefly. If necessary, you may attach additional sheets.)*

   _____

   _____

   _____

   *Note: If your company did not file for patents in Japan in the past 10 years, please stop here and return the questionnaire in the enclosed envelope. Thank you.*

2. Did your company file any patent applications in Europe in the past 10 years (from January 1, 1982 to December 31, 1991)?

   *(Include applications filed directly by your company and applications filed for your company by a patent agent.)* **(N=276)**

   1. [ **99.3 %** ] Yes *(Continue to Question 3.)*
   2. [ **0.7 %** ] No *(Skip to Question 4.)*

*If your firm filed for patents in Europe in the past 10 years, continue to Question 3 below. Otherwise, skip to Question 4.*

3. How many of your company's patent applications filed in Europe are filed through the European Patent Office (EPO)? *(Check one.)* **(N=272)**

   1. [ **69.5 %** ] All or almost all
   2. [ **22.4 %** ] Most
   3. [ **2.9 %** ] About half
   4. [ **2.6 %** ] Less than half
   5. [ **2.6 %** ] Few, if any

   - - - - - - - - - - - - - - -

   6. [ **0.0 %** ] Not sure

4. Does your company currently have a patent office or department in Japan? *(Check one.)* **(N=276)**

   1. [ **9.4 %** ] Yes
   2. [ **90.6 %** ] No

5. Which of the following best describes how your company generally files patent applications in Japan? *(Check one.)* **(N=276)**

   1. [ **34.8 %** ] File indirectly through U.S. law firm
   2. [ **56.2 %** ] File directly through Japanese patent agent
   3. [ **6.5 %** ] Other *(Specify.)*

      _____

      _____

   [ **2.5 %** ] (Volunteered) Both indirectly through U.S. law firm and directly through Japanese patent agent

6. Over the past 5 years, what problems (if any) has your company had with your Japanese patent agent(s)? *(Check one.)* **(N=253)**

   1. [ **46.2 %** ] Little or no problems
   2. [ **26.1 %** ] Some problems
   3. [ **15.4 %** ] Moderate problems
   4. [ **3.6 %** ] Great problems
   5. [ **1.2 %** ] Very great problems

   - - - - - - - - - - - - - - - - - -

   6. [ **7.5 %** ] No opinion
   7. [ -- ] Does not apply/no Japanese patent agent*

   * Does not apply: excluded from percentages.

7. When your company files patents in Japan and the United States: how often, if at all, is the application in Japan virtually the same as the U.S. application? *(Check one.)* **(N=276)**

   1. [ **60.5 %** ] Always, or almost always
   2. [ **26.8 %** ] Most of the time
   3. [ **2.9 %** ] About half the time
   4. [ **4.3 %** ] Some of the time
   5. [ **2.9 %** ] Never, or almost never

   - - - - - - - - - - - - - - - -

   6. [ **2.5 %** ] Not sure/no basis to judge

8. In the past 5 years, how often (if at all) have your company's patent claims in Japan been translated back into English? *(Check one.)* **(N=276)**

   1. [ **19.2 %** ] Always, or almost always *(Skip to Question 10.)*
   2. [ **8.7 %** ] Most of the time
   3. [ **2.5 %** ] About half the time
   4. [ **20.7 %** ] Some of the time
   5. [ **38.8 %** ] Never, or almost never

   - - - - - - - - - - - - - - - -

   6. [ **10.1 %** ] Not sure/ no basis to judge

   *(Continue to Quest. 9)*

9. When your company's Japanese patent application and/or claims are not translated back into English, how often does someone fluent in Japanese (other than the patent agent) review the materials for your company?

   *(Check one. Do not include reviews by Japanese patent agents.)* **(N=221)**

   1. [ **5.0 %** ] Always, or almost always
   2. [ **3.6 %** ] Most of the time
   3. [ **0.5 %** ] About half the time
   4. [ **12.7 %** ] Some of the time
   5. [ **68.8 %** ] Never, or almost never

   - - - - - - - - - - - - - - -

   6. [ **9.5 %** ] Not sure/no basis to judge

10. In the past 5 years, has anyone from your company (excluding your patent agent) met with a Japanese patent examiner regarding a particular application? *(Check one.)* **(N=275)**

    1. [ **19.3 %** ] Yes
    2. [ **80.7 %** ] No

11. Has your company requested an accelerated patent examination in Japan in the past 5 years? *(Check one.)* **(N=273)**

    1. [ **24.9 %** ] Yes
    2. [ **75.1 %** ] No -> Why has your company not requested an accelerated examination? *(Check all that apply.)* **(N=205)**

       1. [ **8.3 %** ] Don't qualify/ineligible
       2. [ **70.7 %** ] Don't need
       3. [ **23.4 %** ] Cost of accelerated exam
       4. [ **8.8 %** ] Other *(Specify.)*

          _____
          _____

12. In your opinion, which of the following actions, if any, have improved your company's patent experience in Japan? *(Check all that apply.)* **(N=277)**

    1. [ **21.7 %** ] Maintaining a direct business presence in Japan (e.g., subsidiaries, manufacturing facilities)
    2. [ **23.5 %** ] Conducting business arrangements with Japanese companies
    3. [ **10.8 %** ] Translating patent applications and/or patent claims back into English
    4. [ **7.2 %** ] Having patent applications reviewed by someone fluent in Japanese (other than your patent agent)
    5. [ **42.2 %** ] Obtaining superior patent representation in Japan
    6. [ **6.9 %** ] Maintaining a patent office in Japan
    7. [ **6.1 %** ] Other *(Please specify.)*

       _____
       _____
       _____

    - - - - - - - - - - - - - - - - - - - - -

    8. [ **34.3 %** ] None of the above

13. How satisfied or dissatisfied is your company with the following aspects of prosecuting patents through the U.S. Patent & Trademark Office (USPTO), the Japanese Patent Office (JPO), and the European Patent Office (EPO)? *(Check one box in each row. If your company has no experience with a patent office, check "does not apply.")*

| PATENT PROSECUTION | Very satisfied (1) | Generally satisfied (2) | Neither satisfied nor dissatisfied (3) | Generally dissatisfied (4) | Very dissatisfied (5) | Does not apply* (6) |
|---|---|---|---|---|---|---|
| **U.S. Patent & Trademark Office (USPTO)** | | | | | | |
| 1. Quality of examination (N=270) | 3.7 % | 57.0 % | 20.0 % | 18.1 % | 1.1 % | -- |
| 2. Extent of disclosure required to support claims (N=268) | 9.3 % | 64.9 % | 17.5 % | 7.5 % | 0.7 % | -- |
| 3. Clarity of office actions (N=270) | 5.6 % | 49.6 % | 30.0 % | 13.7 % | 1.1 % | -- |
| 4. Overall experience with prosecution (N=270) | 4.1 % | 58.1 % | 24.4 % | 12.2 % | 1.1 % | -- |
| **Japanese Patent Office (JPO)** | | | | | | |
| 1. Quality of examination (N=243) | 2.9 % | 34.6 % | 39.9 % | 18.5 % | 4.1 % | -- |
| 2. Extent of disclosure required to support claims (N=247) | 4.0 % | 30.4 % | 31.2 % | 23.1 % | 11.3 % | -- |
| 3. Clarity of office actions (N=241) | 1.2 % | 17.4 % | 36.9 % | 32.8 % | 11.6 % | -- |
| 4. Overall experience with prosecution (N=243) | 2.1 % | 19.3 % | 39.5 % | 32.1 % | 7.0 % | -- |
| **European Patent Office (EPO)** | | | | | | |
| 1. Quality of examination (N=262) | 20.6 % | 63.0 % | 14.1 % | 2.3 % | 0.0 % | -- |
| 2. Extent of disclosure required to support claims (N=261) | 8.4 % | 62.8 % | 23.8 % | 5.0 % | 0.0 % | -- |
| 3. Clarity of office actions (N=261) | 14.2 % | 56.7 % | 24.1 % | 5.0 % | 0.0 % | -- |
| 4. Overall experience with prosecution (N=261) | 11.1 % | 62.5 % | 23.4 % | 3.1 % | 0.0 % | -- |

* Does not apply: excluded from percentages.

14. In the past 10 years, what was the average pendency time for your firm's patent applications to be granted through the following offices? *(Enter your best estimates below or check "unable to estimate" or "does not apply.")*

| Average pendency for... | Time in Years | Unable to Estimate | Does not Apply |
|---|---|---|---|
| 1. Filings through U.S. Patent & Trademark Office (USPTO) | _____ | ☐ | ☐ |
| 2. Filings through Japanese Patent Office (JPO) (after request for examination) | _____ | ☐ | ☐ |
| 3. Filings through European Patent Office (EPO) (after request for examination) | _____ | ☐ | ☐ |

Note: Findings not reported because of missing data (i.e., unable to estimate, does not apply, or item left blank.)

15. In your opinion, has treatment of your company by the Japanese Patent Office (JPO) improved, stayed the same, or worsened in the past 5 years? *(Check one.)* **(N=275)**

1. [ **1.1 %** ] Improved greatly
2. [ **12.4 %** ] Improved somewhat
3. [ **56.4 %** ] Stayed the same
4. [ **5.8 %** ] Worsened somewhat
5. [ **0.4 %** ] Worsened greatly

- - - - - - - - - - -

6. [ **24.0 %** ] No opinion/not sure

16. In the past 5 years, were any of your company's patents opposed in Japan? *(Check one.)* **(N=274)**

1. [ **45.3 %** ] Yes *(Continue to Question 17.)*
2. [ **44.9 %** ] No
3. [ **9.9 %** ] Not sure

*(Skip to Question 18.)*

17. What was the total number of patent oppositions your company encountered in Japan in the past 5 years? *(Check one.)* **(N=123)**

1. [ **70.7 %** ] 1-5
2. [ **15.4 %** ] 6-10
3. [ **8.9 %** ] 11-50
4. [ **2.4 %** ] More than 50

- - - - - - - - - - -

5. [ **2.4 %** ] Not sure

18. How many (if any) patent infringement suits has your firm filed in the United States, Japan, and Europe in the past 5 years? *(Enter your best estimates below or write in "unable to estimate.")*

1. Number of suits filed in United States _____ **(N=264)**
2. Number of suits filed in Japan _____ **(N=261)**
3. Number of suits filed in Europe _____ **(N=259)**

| # of Suits | Survey Results | | |
|---|---|---|---|
| | U.S. | Japan | Europe |
| 0 | **44.3 %** | **92.7 %** | **76.4 %** |
| 1 | **15.9 %** | **5.4 %** | **10.4 %** |
| 2 | **11.4 %** | **0.4 %** | **5.0 %** |
| 3 or more | **28.4 %** | **1.5 %** | **8.1 %** |

19. If your company has experienced patent infringement problems in Japan but has not filed an infringement suit in the Japanese courts, please explain why.

**64 comments**

20. In the past 5 years, what types of patent problems (if any) did your company experience in United States, Japan, and Europe (i.e., the European Patent Office)? *(Check one box in each row.)*

| | Little or no problems (1) | Some problems (2) | Moderate problems (3) | Great problems (4) | Very great problems (5) | Does not apply* (6) |
|---|---|---|---|---|---|---|
| **UNITED STATES** | | | | | | |
| 1. Length of time to obtain a patent (N=272) | 45.2 % | 31.6 % | 18.0 % | 3.7 % | 1.5 % | -- |
| 2. Scope of claims granted (N=272) | 29.0 % | 43.4 % | 22.4 % | 3.3 % | 1.8 % | -- |
| 3. Cost of obtaining a patent (patent prosecution) (N=269) | 33.8 % | 29.7 % | 24.2 % | 8.9 % | 3.3 % | -- |
| 4. Ability to obtain a patent for a pioneering invention (N=249) | 47.0 % | 31.3 % | 14.9 % | 4.8 % | 2.0 % | -- |
| **JAPAN** | | | | | | |
| 1. Length of time to obtain a patent (N=244) | 11.5 % | 16.0 % | 30.7 % | 29.1 % | 12.7 % | -- |
| 2. Scope of claims granted (N=232) | 9.1 % | 15.1 % | 34.9 % | 26.7 % | 14.2 % | -- |
| 3. Cost of obtaining a patent (patent prosecution) (N=243) | 9.1 % | 14.8 % | 34.6 % | 25.1 % | 16.5 % | -- |
| 4. Ability to obtain a patent for a pioneering invention (N=199) | 14.6 % | 20.6 % | 25.6 % | 22.6 % | 16.6 % | -- |
| **EUROPE (European Patent Office)** | | | | | | |
| 1. Length of time to obtain a patent (N=256) | 29.7 % | 37.9 % | 27.0 % | 5.1 % | 0.4 % | -- |
| 2. Scope of claims granted (N=254) | 27.6 % | 42.5 % | 24.0 % | 4.3 % | 1.6 % | -- |
| 3. Cost of obtaining a patent (patent prosecution) (N=255) | 15.3 % | 27.1 % | 37.3 % | 14.1 % | 6.3 % | -- |
| 4. Ability to obtain a patent for a pioneering invention (N=219) | 35.6 % | 37.0 % | 18.3 % | 8.2 % | 0.9 % | -- |

* Does not apply: excluded from percentages.

21. How important, if at all, are each of the following markets to your company? *(Check one box in each row.)*

| IMPORTANCE OF THE MARKET IN... | Little or no importance (1) | Some importance (2) | Moderate importance (3) | Great importance (4) | Very great importance (5) | No opinion/ no basis to judge (6) |
|---|---|---|---|---|---|---|
| 1. United States (N=276) | 0.0 % | 0.0 % | 0.4 % | 11.2 % | 86.6 % | 1.8 % |
| 2. Japan (N=277) | 2.5 % | 17.0 % | 20.6 % | 29.2 % | 28.5 % | 2.2 % |
| 3. Europe (N=276) | 0.4 % | 4.3 % | 15.2 % | 34.4 % | 43.5 % | 2.2 % |

22. When your company receives a patent from the United States Patent & Trademark Office (USPTO), from the Japanese Patent Office (JPO), and from the European Patent Office (EPO): are the scope of claims granted to your company too broad, about right, or too narrow?

*(Check one box in each row. Please answer based on your company's patent experience in the past 5 years. If your company had no patents in a listed country/area, check "does not apply.")*

| SCOPE OF PATENT COVERAGE | Much too broad (1) | Too broad (2) | About right (3) | Too narrow (4) | Much too narrow (5) | Does not apply* (6) |
|---|---|---|---|---|---|---|
| 1. ...from the United States Patent & Trademark Office (USPTO) (N=268) | 0.0 % | 4.1 % | 83.6 % | 11.9 % | 0.4 % | -- |
| 2. ...from the Japanese Patent Office (JPO) (N=238) | 0.0 % | 0.4 % | 28.6 % | 47.5 % | 23.5 % | -- |
| 3. ...from the European Patent Office (EPO) (N=252) | 0.0 % | 2.0 % | 73.4 % | 23.4 % | 1.2 % | -- |

Does not apply: excluded from percentages.

23. In your opinion, has your company been treated differently in the past 5 years by the Japanese Patent Office (JPO) than Japanese applicants? *(Check one.)* (N=272)

1. [ 2.2 % ] Definitely no
2. [ 14.0 % ] Probably no — *(Skip to Question 25.)*
3. [ 62.5 % ] Uncertain
4. [ 18.8 % ] Probably yes
5. [ 2.6 % ] Definitely yes — *(Continue to Question 24.)*

24. Please explain briefly your answer to Question 23.

**45 comments**

25. In your opinion, to what extent (if any) have pre-grant oppositions to your company's patent applications in Japan had an adverse effect on your company? *(Check one.)* (N=272)

1. [ 33.8 % ] To little or no extent
2. [ 11.8 % ] To some extent
3. [ 7.4 % ] To a moderate extent
4. [ 5.9 % ] To a great extent
5. [ 1.1 % ] To a very great extent
6. [ 40.1 % ] No opinion/no basis to judge

26. In your opinion, to what extent (if any) have post-grant oppositions to your company's patent applications in Europe had an adverse effect on your company? *(Check one.)* (N=272)

1. [ 37.1 % ] To little or no extent
2. [ 24.3 % ] To some extent
3. [ 7.0 % ] To a moderate extent
4. [ 2.9 % ] To a great extent
5. [ 0.7 % ] To a very great extent
6. [ 27.9 % ] No opinion/no basis to judge

27. Is your company experiencing less difficulties or more difficulties in Japan than in the United States/Europe in obtaining and/or enforcing patents for pioneering inventions? *(Check one.)* (N=269)

Difficulties in Japan are...

1. [ **1.1 %** ] Much less
2. [ **2.2 %** ] Somewhat less — *(Skip to Question 29.)*
3. [ **52.4 %** ] Not sure
4. [ **26.4 %** ] Somewhat more
5. [ **17.8 %** ] Much more — *(Continue to Question 28.)*

28. Please explain the nature of the difficulties (in Question 27). If possible, describe which product/technology areas have been affected, and how this compares to your experience in the United States and Europe.

***101 comments***

29. How frequently (if at all) does your company file for patents in Japan in order to enter into licensing arrangements involving technology transfer to other companies? *(Check one.)* (N=275)

1. [ **28.7 %** ] Seldom if ever
2. [ **32.7 %** ] Sometimes
3. [ **18.2 %** ] Often
4. [ **9.1 %** ] Very often
5. [ **6.9 %** ] Always or almost always

- - - - - - - - - - - - - - - - -

6. [ **4.4 %** ] Not sure

30. In the past 5 years, has your firm transferred technology (e.g., through licensing arrangements and/or joint ventures) to Japanese firms solely to avoid patent problems in Japan? *(Check one.)* (N=274)

1. [ **4.0 %** ] Definitely yes
2. [ **3.6 %** ] Probably yes
3. [ **9.9 %** ] Uncertain
4. [ **31.0 %** ] Probably no
5. [ **51.5 %** ] Definitely no

31. In your opinion, to what extent (if any) does the Japanese patent system give Japanese companies a competitive advantage over your company? *(Check one.)* (N=275)

1. [ **11.6 %** ] To little or no extent
2. [ **16.0 %** ] To some extent
3. [ **18.9 %** ] To a moderate extent
4. [ **14.2 %** ] To a great extent
5. [ **9.1 %** ] To a very great extent

- - - - - - - - - - - - - - - - -

6. [ **30.2 %** ] No opinion/no basis to judge

32. In your opinion, to what extent (if any) have patent problems in Japan had an adverse effect on your company? *(Check one.)* (N=276)

1. [ **38.0 %** ] To little or no extent
2. [ **27.2 %** ] To some extent
3. [ **11.6 %** ] To a moderate extent
4. [ **4.0 %** ] To a great extent
5. [ **2.2 %** ] To a very great extent

- - - - - - - - - - - - - - - - -

6. [ **17.0 %** ] No opinion/no basis to judge

33. What problems, if any, has your company experienced with other companies filing patent applications surrounding your patents ("patent flooding") in the United States, Japan, and Europe?

*(Check one box in each row. Please answer based on your company's patent experience in the past 5 years. If your company had no patents in a listed country/area, check "does not apply.")*

| | Little or no problems (1) | Some problems (2) | Moderate problems (3) | Great problems (4) | Very great problems (5) | Does not apply* (6) |
|---|---|---|---|---|---|---|
| 1. ...in the United States (N=260) | 56.9 % | 28.8 % | 8.8 % | 4.2 % | 1.2 % | -- |
| 2. ...in Japan (N=244) | 45.5 % | 25.4 % | 16.8 % | 9.0 % | 3.3 % | -- |
| 3. ...in Europe (European Patent Office) (N=245) | 56.3 % | 29.8 % | 10.6 % | 2.9 % | 0.4 % | -- |

* Does not apply: excluded from percentages.

## B. Background

34. To help us understand your response, please indicate who primarily completed this questionnaire. *(Check one.)* (N=276)

1. [ 76.8 % ] Company patent attorney
2. [ 19.2 % ] Another company official/ employee (not a patent attorney)
3. [ 4.0 % ] Patent attorney in private practice representing the company

35. Please estimate the average number of new patent applications filed by your company per year in the past 5 years (excluding divisionals, amendments, and continuations) in the United States, Japan, and Europe. *(Enter estimates below.)*

Average applications filed per year

1. United States (N=267) _____
2. Japan (N=264) _____
3. Europe (N=263) _____

| | Average applications per year | | | | |
|---|---|---|---|---|---|
| | 0-10 | 11-20 | 21-50 | 51-100 | 101+ |
| U.S. | 24.0 % | 16.5 % | 23.2 % | 16.5 % | 19.9 % |
| Japan | 48.1 % | 15.2 % | 17.8 % | 11.0 % | 8.0 % |
| Europe | 41.1 % | 17.9 % | 19.0 % | 11.8 % | 10.3 % |

36. Please estimate the number of active patents (issued but not expired) currently held by your company in the United States, Japan, and Europe. *(Check one box in each row.)*

| | Active Patents Held | | |
|---|---|---|---|
| | None | 1-9 | 10 or more |
| 1. United States (N=273) | 0.0 % | 4.8 % | 95.2 % |
| 2. Japan (N=272) | 9.9 % | 21.7 % | 68.4 % |
| 3. Europe (N=272) | 3.7 % | 16.9 % | 79.4 % |

37. Is your company currently active in filing patents in each of the following areas? *(Check one box in each row. Biotechnology includes (but is not limited to) natural products, recombinantly produced products, and monoclonal antibodies.)*

| FILES PATENTS IN... | Yes (1) | No (2) |
|---|---|---|
| 1. Biotechnology (N=266) | 41.0 % | 59.0 % |
| 2. Semiconductors (N=265) | 34.7 % | 65.3 % |
| 3. Chemicals (N=267) | 49.8 % | 50.2 % |

38. Please indicate the industry or industries in which your company is primarily involved.

*(Check all that apply. When answering, please consider your entire firm, including all branches and subsidiaries. Do not include a parent company.)* **(N=277)**

1. [ **13.4 %** ] **Aerospace**
2. [ **12.6 %** ] **Automotive**
3. [ **35.4 %** ] **Biotechnology**
   - [ **21.7 %** ] Pharmaceutical biotechnology (Human Health Care)
   - [ **13.4 %** ] Biomedical devices/equipment
   - [ **13.4 %** ] All Other Biotechnology (including ag/environmental/energy biotechnology)
4. [ **32.9 %** ] **Chemicals and Allied Products**
   - [ **7.9 %** ] Agricultural Chemicals
   - [ **6.9 %** ] Cosmetics, fragrances, and toiletries
   - [ **29.2 %** ] Other Chemicals
5. [ **13.7 %** ] **Computer**
6. [ **8.7 %** ] **Petroleum**
7. [ **16.2 %** ] **Pharmaceutical**
8. [ **31.0 %** ] **Semiconductor**
   - [ **24.2 %** ] Devices
   - [ **6.5 %** ] Manufacturing equipment
   - [ **9.7 %** ] Materials
9. [ **29.6 %** ] **Other Manufacturing** *(Specify.)*

   _____
10. [ **14.4 %** ] **Other** *(Specify.)*

    _____

39. Which of the following best describes your company? *(Check one. Consider your entire company, using the same definition as Question 38.)* **(N=273)**

1. [ **15.4 %** ] A biotechnology company
2. [ **16.1 %** ] A chemicals and allied products company (see Question 38.4)
3. [ **13.6 %** ] A semiconductor company
4. [ **7.7 %** ] A pharmaceutical company
5. [ **45.8 %** ] Combination/None of the above
6. [ **1.5 %** ] Not sure

40. Please estimate worldwide sales in 1991 for your company. *(Check one. When answering, please consider your entire firm, including all branches and subsidiaries. Do not include a parent company.)* **(N=276)**

1. [ **10.1 %** ] Under $10 million
2. [ **9.8 %** ] At least $10 million but less than $100 million
3. [ **10.9 %** ] At least $100 million, but less than $500 million
4. [ **10.1 %** ] At least $500 million, but less than $1 billion
5. [ **40.2 %** ] At least $1 billion, but less than $10 billion
6. [ **15.6 %** ] At least $10 billion

- - - - - - - - - - - - - - - - - - -

7. [ **3.3 %** ] Unable to estimate

41. In what year was your company first established? *(Check one.)* **(N=277)**

1. [ **70.4 %** ] 1970 or before
2. [ **9.0 %** ] 1971 - 1979
3. [ **20.6 %** ] 1980 or later

42. About how many employees worldwide does your company currently have?

*(Check one. When answering, please consider your entire firm, including all branches and subsidiaries. Do not include a parent company.)* (N=274)

1. [ 7.3 % ] Less than 100
2. [ 11.3 % ] 101-500
3. [ 6.9 % ] 501-1,000
4. [ 16.1 % ] 1,001-5,000
5. [ 9.1 % ] 5,001-10,000
6. [ 33.2 % ] 10,001-50,000
7. [ 15.7 % ] More than 50,000
8. [ 0.4 % ] Unable to estimate

43. Is your company a subsidiary of a United States, Japanese, or European company? *(Check one.)* (N=277)

1. [ 79.1 % ] No
2. [ 10.8 % ] Yes, subsidiary of U.S. company
3. [ 1.1 % ] Yes, subsidiary of Japanese company
4. [ 9.0 % ] Yes, subsidiary of European company

44. In the past 5 years, how much activity (if any) has your company had in conducting business arrangements with Japanese companies (e.g., conducting licensing arrangements, joint ventures, or other types of business arrangements)? *(Check one.)* (N=277)

1. [ 13.4 % ] Very great activity
2. [ 24.2 % ] Great activity
3. [ 28.9 % ] Moderate activity
4. [ 23.8 % ] Some activity
5. [ 9.7 % ] Little or no activity

45. Currently, does your company wholly or partly own subsidiaries or manufacturing facilities in Japan? *(Include involvement through a joint venture. Check one.)* (N=276)

1. [ 44.9 % ] No
2. [ 2.9 % ] Not sure
3. [ 52.2 % ] Yes -> How many years has your company owned them? (N=139)
   1. [ 13.7 % ] Less than 5 years
   2. [ 12.2 % ] 5-9 years
   3. [ 69.8 % ] 10 years or more
   4. [ 4.3 % ] Not sure

## C. Views on Patent Systems

46. In the context of a patent harmonization treaty, would you support or oppose having the United States adopt a first-to-file system? *(Check one.)* (N=276)

1. [ 37.7 % ] Strongly support
2. [ 28.6 % ] Generally support
3. [ 6.9 % ] Neither support nor oppose
4. [ 11.2 % ] Generally oppose
5. [ 10.5 % ] Strongly oppose
6. [ 5.1 % ] No opinion

47. In the context of a patent harmonization treaty, would you support or oppose having the United States publish patent applications after 18-24 months? *(Check one.)* (N=277)

1. [ 28.2 % ] Strongly support
2. [ 36.1 % ] Generally support
3. [ 11.2 % ] Neither support nor oppose
4. [ 13.0 % ] Generally oppose
5. [ 7.9 % ] Strongly oppose
6. [ 3.6 % ] No opinion

48. In your opinion, to what extent (if any) would each of the following changes to the Japanese/European patent systems improve your company's patent experience in Japan/Europe? *(Check one box in each row.)*

| TYPE OF CHANGE | To little or no extent (1) | To some extent (2) | To a moderate extent (3) | To a great extent (4) | To a very great extent (5) | No opinion/ No basis to judge (6) |
|---|---|---|---|---|---|---|
| **JAPANESE PATENT SYSTEM** | | | | | | |
| 1. Allow initial filing of application in English (this version would be the ruling document) (N=274) | 2.9 % | 5.1 % | 19.0 % | 32.5 % | 37.2 % | 3.3 % |
| 2. Changing from pre-grant to post-grant opposition system (N=271) | 19.6 % | 14.0 % | 19.9 % | 16.6 % | 12.5 % | 17.3 % |
| 3. Adopt 12-month grace period (N=273) | 10.6 % | 11.4 % | 18.3 % | 26.4 % | 22.7 % | 10.6 % |
| 4. Change from 7-year deferral of examination to maximum of 3-year deferral (N=273) | 25.3 % | 20.1 % | 16.8 % | 14.7 % | 14.7 % | 8.4 % |
| 5. Japanese Patent Office (JPO) would take action within 2 years after examination is begun (N=272) | 7.0 % | 12.1 % | 22.4 % | 25.4 % | 26.1 % | 7.0 % |
| 6. Apply a doctrine of equivalents (N=265) | 6.4 % | 10.9 % | 20.8 % | 19.6 % | 22.3% | 20.0 % |
| **EUROPEAN PATENT SYSTEM** | | | | | | |
| 1. Adopt 12-month grace period (N=274) | 9.9 % | 11.3 % | 21.9 % | 22.3 % | 24.8 % | 9.9 % |
| 2. European Patent Office (EPO) would take action within 2 years after examination is begun (N=271) | 10.0 % | 15.5 % | 26.6 % | 21.4 % | 19.9 % | 6.6 % |

49. If you have any comments on this survey, or comments on your company's patent experience in the United States, Japan, and/or Europe, use the space provided. If necessary, you may attach additional sheets.

70 comments

GGD/KEJ 8/92

# Major Contributors to This Report

| | |
|---|---|
| General Government Division, Washington, D.C. | Curtis F. Turnbow, Assistant Director<br>Elizabeth J. Sirois, Project Manager<br>Mary M. Park, Evaluator<br>Rose Marie Ham, Evaluator<br>Taylor E. Winston, Evaluator<br>Susan S. Westin, Senior Economist<br>Kenneth E. John, Senior Social Science Analyst<br>Charity J. Goodman, Social Science Analyst<br>Rona H. Mendelsohn, Reports Analyst |
| Office of General Counsel, Washington, D.C. | Richard R. Perruso, Attorney-Adviser |
| European Office | Paul M. Aussendorf, Assignment Manager<br>Inez M. Azcona, Site Senior<br>Barry J. DeWeese, Evaluator |
| San Francisco Regional Office | Kane A. Wong, Assistant Director<br>Adam R. Cowles, Senior Evaluator<br>Jose R. Pena, Evaluator |

# Glossary

| | |
|---|---|
| Accelerated Examination | In 1986, the Japanese Patent Office (JPO) introduced procedures to provide accelerated examination of patent applications that meet certain conditions. If an application is deemed eligible for accelerated examination, JPO is supposed to begin examination of the patent immediately and to issue an office action within 4 to 8 months. |
| Bengoshi | A Japanese term for an attorney-at-law. |
| Benrishi | A Japanese term for a patent attorney, the equivalent of a patent agent in the United States. |
| Discovery | Discovery refers to legal procedures that can be used by one party before a trial to obtain facts and information about the case from the other party in order to assist in preparation for the trial. |
| Doctrine of Equivalents | The doctrine of equivalents is a judicially developed equitable remedy available to a patent holder to use against one who uses the essence of the patented invention but who does not literally infringe the patent. |
| European Patent Office (EPO) | EPO, founded in 1977 under the European Patent Convention, issues "European patents" that are valid in up to 17 European countries on the basis of a single application and an examination procedure using uniform standards. |
| First-to-File System | A system whereby a patent is awarded to the first inventor to file a patent application. This system is used by every developed country in the world except for the United States. |
| First-to-Invent System | A system whereby a patent is awarded to the inventor who filed a patent application and establishes the earliest invention date. The United States is the only developed country in the world that uses this system. |
| Grace Period | A grace period is a fixed period of time immediately preceding the filing of a patent application during which certain disclosures of the invention to |

| | |
|---|---|
| | the public are permitted without prejudicing the patentability of the invention. |
| Multiple Claims | Inventors sometimes include more than one claim in a patent application because they are seeking protection for different aspects and/or uses of the same invention or for closely related inventions. |
| Office Action | An office action is a notification from a patent office regarding an examiner's decision on a patent application. It states reasons for any adverse decision, objection, or requirement and provides information that may assist the applicant in judging whether to pursue the application. |
| Opposition System | A system used by patent offices in various countries that allows third parties to object to patent applications by submitting reasons why patents should not be granted, or if granted, why the patents should be revoked. Some patent offices, such as JPO, allow oppositions to be filed before a patent is granted, while others, such as EPO, allow them only after a patent is granted. |
| Patent | A patent is the grant of a property right issued by a national government or an international intergovernmental authority for an invention, giving the inventor the right to exclude others from commercially making, using, or selling the invention during the patent term. Inventions covered by patents typically include products as well as processes for making or using new or existing products. |
| Patent Claims | Patent claims define the scope of protection requested by a patent applicant. The claims outline the boundaries of an invention. |
| Patent Flooding | Patent flooding refers to the practice of filing many patent applications claiming minor, incremental changes surrounding another patentee's core technology. |
| Patent Harmonization | Patent harmonization is a current multilateral effort to standardize international patent procedures. |

| | |
|---|---|
| Patent Pendency | Patent pendency is the amount of time it takes for a patent to be issued or the patent application to be finally rejected. |
| Patent Prosecution | Patent prosecution refers to the preparation of a patent application and the process of obtaining a patent. |
| Patent Specification | A patent's specification, contained in a patent application, describes the technical details of an invention. |
| Patent Term | The term of a patent is the duration of patent protection. |
| Pioneering Invention | An invention that involves substantially new, or breakthrough, technologies. |
| Preliminary Injunction | A preliminary injunction is a court order granted at the beginning of a lawsuit to prevent the defendant from doing or continuing some act, the right to which is in dispute. |
| Prior Art | Prior art is the body of information, including patent and nonpatent literature, which is consulted to determine the patentability of an invention. |
| Process Patent | A patent for an invention involving a process or method of making or using a product or for a new use of a known process or method. |
| Scope of Patent Protection | The scope of patent protection outlines the boundaries of the invention for which the inventor is seeking exclusive rights. |
| Treble Damages | Treble damages are three times the amount of compensatory damages and are sometimes available in patent infringement suits in the United States. |

## Working Example

A working example is a specific example provided in a patent application to support an inventor's claim(s). It usually includes physical data to show that an invention has been worked.

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1000
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (301) 258-4066.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100