

IP5 Statistics Report

2011 EDITION



IP5Statistics Report 2011 Edition

European Patent Office,
Japan Patent Office,
Korean Intellectual Property Office,
State Intellectual Property Office of the People's Republic of China,
United States Patent and Trademark Office

Edited by
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Executive Summary

The 2011 IP5 Statistics Report (IP5 SR) is an annual compilation of patent statistics for five Intellectual Property (IP5) Offices – the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People’s Republic of China (SIPO), and the United States Patent and Trademark Office (USPTO). This is the first annual statistics report that covers the patent statistical activities of all five offices.

- At the end of 2010, 89 percent of the 7.4 million patents in force were valid in one of the IP5 Offices jurisdictions. There were 68 thousand (1 percent) more patents in force in 2010 than in 2009.
- Worldwide filing activities, measured in terms of direct national, direct regional and international Patent Cooperation Treaty (PCT) applications increased about 5 percent from 2009 to 2010, to 1.63 million patent filings of which nearly 90 percent originated with the IP5 blocs.
- In 2011, a total of about 1,694,000 patent applications were filed at the IP5 Offices, an increase of 10 percent from 2010 (1,547,000).
- Physics and electricity technologies made up the largest proportion of filings at the IP5 Offices. The proportion of technologies filed at each office has been fairly consistent.
- The proportion of PCT applications continuing to the national/regional phase increased for all IP5 Offices in 2011, which means that applicants have chosen to pursue protection in those countries or regions.
- Together the IP5 Offices granted a total of 791,773 patents in 2011, which were 87,405 more than in 2010. This is an overall year-to-year growth rate of 12 percent. The number of patents granted increased at each IP5 office in 2011.
- In 2011, the EPO launched plans to implement its new strategy framework. Significant progress was made on patent classification and machine translation.
- In 2011, the JPO furthered their efforts to meet applicant needs by promoting their Accelerated Examination System, implementing a Super Accelerated Examination System with first action within one month, and accepting requests under their Green Accelerated Examination System for inventions that have energy-saving effect and contribute to the reduction of CO₂.
- In 2011, the KIPO developed the 3rd generation KIPOnet which launched on January 1, 2012. The system provides a more simplified e-filing software suite

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and Easy-Web filing system, both of which support an automated search function for similar prior patents of each application.

- In 2011, the SIPO promulgated the 12th-Five-Year Plan for Intellectual Property Business Development in the P.R. China and the 12th-Five-Year Plan for Patent Business Development in the P.R. China.
- In 2011, the USPTO began its implementation of the America Invents Act (AIA) which transitions the U.S. from a first-to-invent to a first-inventor-to-file system, allows for third party submission of prior art, provides enhanced proceedings for post-grant patent reviews, and authorizes establishment of the USPTO satellite offices beyond the Alexandria, VA/Washington, D.C. area.

Preface

This report is the first edition of the expanded IP5 Statistics Report (IP5 SR). It was jointly produced by the “IP5 Offices” which includes the EPO, the JPO, the KIPO, the SIPO, and the USPTO along with the support of the International Bureau (IB) of the World Intellectual Property Organization (WIPO). This IP5 SR is an expansion of the former “Four Office Statistics Report” (FOSR) which includes the addition of the SIPO since it joined efforts in statistical cooperation through creation of the IP5 Statistics Working Group in April 2012. Prior to 2008, the Report was called the “Trilateral Statistical Report” (TSR) and included the EPO, the JPO, and the USPTO. This report, along with other data exchanges and information about the Group can be found at www.fiveipoffices.org.

Collaboration between the IP5 Offices has proven to be successful in the area of patent statistics. In addition to promoting a better understanding of patenting activity both at the IP5 Offices and worldwide, the report explains each Office’s operations and informs about patent grant procedures. In order to do this, the report discusses background activities at each Office, reviews worldwide patenting developments and then compares the patent related work at the IP5 Offices. The IP5 SR supplements annual reports for each of the IP5 Offices and also presents specific statistics that are collected and published by the WIPO.

There seem to be diverse factors that influence patent filing trends. In the past, the major causes of trend breaks were changes in patent rules and fees. Every year there is a background of small changes of this type at one or more of the IP5 Offices. The only major change recently is the AIA in the U.S., which has not yet been fully implemented. Economic conditions and, in particular, economic growth have had the most bearing on recent filings. Additionally, as the global patent system becomes more harmonized, common economic drivers have been a major influence on patent filings.

According to the *World Economic Outlook*¹ of the International Monetary Fund (IMF), although the global economic crisis has passed, optimism should remain tempered as the risk of another crisis in both advanced and emerging economies is still very much present. In line with the IMF *Outlook*, the data presented in this report show both a global rebound in patent filings since 2009 as well as regional differences in economic growth. Worldwide patent filings grew 5 percent in 2010. (At the time of publication of this report, the 2011 worldwide filing count is not yet available.) More recent data are available from the IP5 Offices and shows that in 2011 filings grew 35 percent for the SIPO, 5 percent for the KIPO, 4 percent for the EPO, 3 percent for the USPTO and fell 1 percent for the JPO. Additionally, the data showed a total growth of 10 percent for overall filings at the IP5 Offices.

¹ *World Economic Outlook* April 2012, www.imf.org.

IP5 Statistic Report 2011

Preface

Although economic growth is closely tied to patent filing, political and technological factors also influence filing. Globalization of markets and production continue to be key business trends. There is a worldwide tendency to harmonise patent laws with common international standards and to facilitate the flow of patent applications across borders. This has had a positive impact on worldwide patent growth over recent years.

Beginning this year explicit data regarding P.R. China have been added to the report. Therefore, it should be noted that the statistical counts for Other countries (outside the IP5 Blocs) have now been considerably reduced compared to data for Others (which included P.R. China) in previous editions of the report.

The IP5 Offices hope that this IP5SR 2011 brings useful information to the reader. The Offices will continue to improve and refine the report to better serve expectations and objectives of the public.

Materials from this report can be freely reproduced in other publications but we request that this should be accompanied by a reference to the title and a web site location of this report.

An additional annex appears in the web version, <http://www.fiveipoffices.org/stats.html> that gives a glossary of patent related terms, and there is also a file that contains statistics covering more years.

EPO, JPO, KIPO, SIPO, and USPTO

With cooperation of WIPO

December 2012

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Chapter 1

INTRODUCTION

Intellectual Property (IP) refers to a variety of mechanisms that have been established for protecting “creations of the mind”², including:

- Patents for invention
- Utility model patents
- Industrial design patents
- Trademarks
- Copyrights
- Geographic indications

This report focuses on industrial property rights and particularly on patents for invention.³ It is notable that the activity of patents for invention is recognized throughout the world as a useful indicator of innovative activity.

In order to obtain protection for their innovations, applicants for patents for invention may use the following types of granting procedures, or combinations of them:

- National procedures
- Regional procedures (for example, those created by the European, Eurasian, African Intellectual Property Organization, and Gulf Cooperation Council regions)
- the International PCT procedure

Each country and region maintains its own patent procedures with the intent of encouraging innovative activities and optimizing the regional benefits of innovation. Enhanced international cooperation led to the establishment of different regional and international patenting procedures, nevertheless patent law varies from country to country. The scope of an individual patent application can also differ from place to place. These factors limit the degree to which the patenting activity in different countries and regions can be directly compared.

Most of the patent systems are based on the first-to-file principle and acknowledge the Paris Convention. This drives to a large extent the usage of the patent systems worldwide. A first patent application is usually filed to the local authority to protect the invention, followed within the one year priority period by subsequent applications to expand protection to other countries.

² See also, World Intellectual Property Organization, “What is Intellectual Property”, <http://www.wipo.int/about-ip/en/>

³ Patents for invention are called utility patents in the case of the USPTO. These are different from utility model patents as explained in Chapter 6.

Separate references are made to "direct" applications filed under national and regional procedures and to "PCT" international applications in order to distinguish the two subsets of applications handled by the Patent offices. While applications filed under national procedures are handled by national authorities, regional applications are subject to a centralized procedure and usually only after grant do they fall under national (post grant) regulations. International applications, filed under the PCT, are first handled by appointed Offices during the international phase. About 30 months after the first filing, the PCT applications enter the national/regional phase to be treated as national or regional applications according to the regulations of each designated Office.

In this report, patenting activities are presented for the six following geographical blocs:

- the European Patent Convention (EPC) contracting states (EPC states in this report) corresponding throughout the period covered in this report to the territory of the 38 states party to the EPC at the end of 2011
- Japan (Japan in this report)
- People's Republic of China (P.R. China in this report)
- Republic of Korea (R. Korea in this report)
- United States of America (U.S. in this report)

- the rest of the world (Others in this report)

The first five blocs are referred to, together, as the "IP5 Blocs". These blocs are referred to as blocs of origin on the basis of the residence of the applicant (throughout the report) or as filing blocs on the basis of the place where the patents are sought.

The contents of each of the report chapters are briefly discussed below. With the exception of some items presented in Chapter 6, all statistics relate only to patents for invention.

Please refer to Annex 2 for explanations of many of the statistical and procedural terms used in the chapters. In addition, definitions of patent related terms can be found in the Annex 3 glossary located in the web version of this report.⁴

Chapter 2 – The IP5 Offices

A summary of the recent developments in the IP5 Offices is presented. In this chapter there is one section per IP5 Office and a final section on cooperative activities. Definitions for budget item terminology appearing in the chapter are provided in Annex 1.

⁴ <http://www.fiveipoffices.org/stats.html>

Chapter 3 - Worldwide Patenting Activity

An assessment of worldwide patent activity is presented in this, the largest chapter of this report.

There is some indication of the interdependence and importance of the major geographical markets. The total number of applications filed worldwide is presented in separate sections that use different methods for counting the applications. This is followed by a discussion of bloc-wise patent activity for applications and grants. Next, a description of inter-bloc activity is presented, firstly in terms of the flows of applications between the IP5 Blocs, and then in terms of patent families, where a patent family is a defined group of patent filings that claims priority to a single filing.⁵

Statistics are derived primarily from the Intellectual Property Statistics of WIPO⁶, as collected from each country and region. Specific terminology and associated definitions, as used in Chapter 3, are provided in Annex 2.

Chapter 4 – Patent Activity at the IP5 Offices

This part of the report presents the substantive activities of the IP5 Offices and gives statistics on patent application filings and grants at the Offices.

In the first part of the chapter, the statistics give insight into the work that is requested and carried out at the IP5 Offices.

Statistics are given for requests for patents with the IP5 Offices, including domestic and foreign filing breakouts. Then, statistics are provided displaying the breakdown of applications by fields of technology according to the International Patent Classification (IPC).⁷

Some comparative indication of the services that actually have been demanded may be seen in the statistics on granted patents. The numbers of grant actions by the IP5 Offices, broken down by the blocs of origin of the grants, are provided, and distributions by numbers of grants per applicant are described as well.

To illustrate the similarities as well as the differences in the granting procedures at the IP5 Offices, comparisons of the characteristics and statistics of the five patent granting procedures are given in the last part of the chapter. Work is not always performed at a comparable point in time at the various Offices. Consequently, neither the number of applications filed nor the number of requests for examination is a perfect basis for a comparison of the Offices.

⁵ For a further discussion of patent families, see the term definitions in Annex 2.

⁶ This edition refers to general patent data as of March 2012, and to July 2012 for PCT international applications. <http://www.wipo.int/about-ip/en/>

⁷ <http://www.int.classifications/ipc/en/>

Specific terminology and associated definitions, as used in Chapter 4 and in Table 4, are provided in Annex 2.

Chapter 5 – The IP5 Offices and the Patent Cooperation Treaty (PCT)

In this chapter, the influence of the PCT on patenting activities is displayed through worldwide activities broken down in to geographical blocs, particularly in terms of percentages of PCTs among international phase entries, national/regional phase entries and grants. As with Chapter 3, statistics are derived primarily from the Intellectual Property Statistics of WIPO, that are collected from each country and region. Statistics are also included to describe the activities of the IP5 Offices including activities as Receiving Office (RO), International Searching Authority (ISA), and International Preliminary Examining Authority (IPEA).

Chapter 6 – Other Work

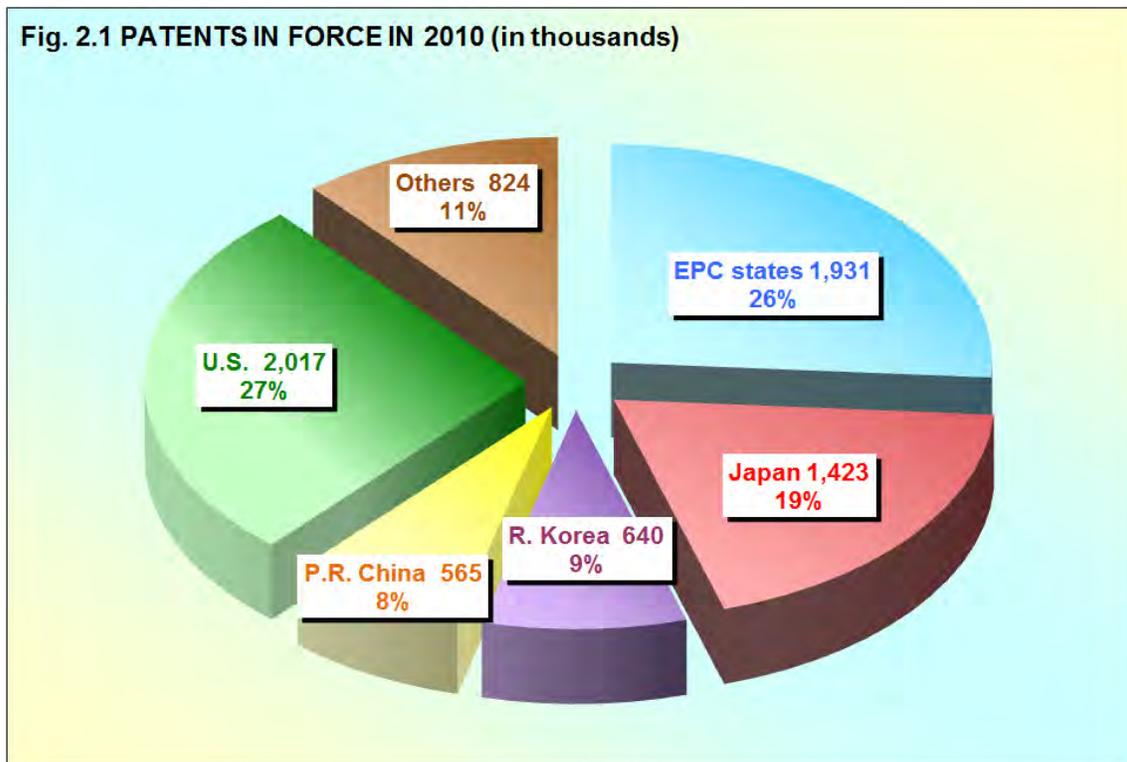
This chapter is dedicated to the other activities that are not common to all of the IP5 Offices, as well as to work related to other types of industrial property rights. The information, as presented, is intended as a supplement to the information provided in the other portions of this report.

Chapter 2

THE IP5 OFFICES

Patents are recognized throughout the world as a measure of innovative activity. The EPO, the JPO, the KIPO, the SIPO and the USPTO are the largest IP Offices in terms of the volume of patent applications they handle. The following figure shows the prominent role played by the IP5 Offices in terms of the number of patents in force at the end of 2010. The data are based on the most recent worldwide patent information available from the WIPO Statistics Database.⁸

Fig. 2.1 shows the number of patents in force by bloc in 2010.



At the end of 2010, 89 percent of the 7.4 million patents in force were valid in one of the IP5 Offices jurisdictions.

⁸ <http://www.wipo.int/ipstats/en/statistics/patents/>. Data for patents in force for 2010 are missing for some countries in the WIPO data. Where available, the most recent previous year's data were substituted for missing 2010 data.

EUROPEAN PATENT OFFICE

The EPO is the only central patent granting authority for Europe, providing patent protection in up to 40 European countries on the basis of a single patent application and a unitary grant procedure. This represents a market of more than 610 million people.

At the end of 2011, the 38 members of the underlying European Patent Organization were:

Albania	Austria	Belgium	Bulgaria	Croatia
Cyprus	Czech Republic	Denmark	Greece	Estonia
Finland	France	Germany	Hungary	Iceland
Ireland	Italy	Latvia	Liechtenstein	Lithuania
Luxemburg	Malta	Monaco	Fyr of Macedonia	Netherlands
Norway	Poland	Portugal	Romania	San Marino
Slovakia	Slovenia	Spain	Serbia	Sweden
Switzerland	Turkey	United Kingdom		

Two other states have agreements with the EPO to allow applicants to request an extension of European patents to their territory:

Bosnia-Herzegovina and Montenegro

The EPO has also developed a new scheme called validation agreements, allowing the protection of a European patent beyond the borders of the Organization. A first agreement signed with Morocco should come soon into force. Discussions with other countries are on their way.

The mission of the EPO is to support innovation, competitiveness, and economic growth across Europe through a commitment to high quality and efficient services delivered under the EPC. Its main task is to grant European patents according to the EPC. Moreover, under the PCT the EPO acts as a receiving office as well as a searching and examining authority. A further task is to perform, on the behalf of Patent offices of several member states – including France, Italy, the Netherlands, Belgium - state of the art searches for the purpose of national procedures. The EPO is also major actor in the patent information area, developing tools and data bases.

Highlights of 2011

In 2011, the EPO established a new strategic framework aiming at boosting efficiency and controlling costs while at the same time maintaining and enhancing the quality of the EPO products. The strategy focuses on five major areas: Information Technology (IT), human resources, buildings, quality and cooperation. A five year plan was developed for each of these areas which are translated into several concrete projects with clear timetables.

Progress was made in 2011 on major projects such as patent classification and machine translation, as well as on preparing for the possible introduction of the unitary patent system for European Union (EU) member states.

Grant Procedure

All EPO activities dealing with search, examination, opposition or appeals are performed internally and not outsourced. The decision to grant or refuse a patent is taken by a board of three examiners. In Table 2.1, production figures for search (European, PCT and national searches), for examination (European and PCT Chapter II), for opposition and for appeal in the European procedure are given for the years 2010 and 2011. There was a further increase in demand in 2011 as represented by the overall number of patent filings.

Table 2.1: EPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2010	2011	Change	% Change
Patent filings (Euro-direct & PCT international phase)	235,700	244,437	8,737	4%
Searches carried out				
European (including PCT supplementary)	100,010	104,638	4,628	5%
PCT international	73,686	75,274	1,588	2%
On behalf of national Offices and other	27,818	26,227	-1,591	-6%
Total production search	201,514	206,139	4,625	2%
Examination - Opposition (final actions)				
European examination	114,991	110,331	-4,660	-4%
PCT Chapter II	7,128	7,529	401	6%
Oppositions	2,309	2,234	-75	-3%
Total final actions examination-opposition	124,428	120,094	-4,334	-3%
European patents granted	58,108	62,112	4,004	7%
Appeals settled				
Technical appeals	1,959	1,874	-85	-4%
Petitions for reviews and referrals	28	22	-6	-21%
Other appeals	39	27	-12	-31%
Total decisions	2,026	1,923	-103	-5%

In 2011, the number of searches completed increased by 2 percent to about 206,100 while the number of final actions in examination at the EPO, including the PCT work, decreased by 3 percent to about 120,100. This change reflects a lower number of decisions by applicants to withdraw applications, and a higher number of published granted patents. Altogether, the Office production increased compared to 2010. The EPO continues to issue a search report with written opinion on first filings within 6 months. About 1,920 decisions in appeal were completed by the EPO boards of appeal in 2011. On average in 2011, a patent granted by the EPO designated 23 countries at the time of grant (21 in 2010).

The EPO fast track procedure, Program for Accelerated Prosecution of European Patent Applications (PACE), can be required without any additional fee and is open for any field of technology. PACE is requested for 6 to 7% of the patent applications every year. In 2011, the EPO received 14,500 PACE requests (5,700 searches, 8,800 examinations).

Patent Information

The EPO is a producer of patent information products and services. It has established databases that are available not only for internal use, but also for dissemination by national Offices. The EPO maintains a comprehensive collection of patent-related literature, making available more than 600 million records containing about 80 million patent documents, within 120 specialized databases. The main database Espacenet is freely accessible 24 hours a day. Efforts have been made for improvement of these databases by focusing on machine translation of patents in order to reduce language barriers, as well as by improving the electronic search tools used by EPO examiners and more than 45 Patent offices world-wide, in particular its search engine called EPOQUE.

A new system, *Patent Translate*, has been developed in partnership with Google Inc., aiming at covering by the end of 2014, the 28 languages of the EPC states, Chinese, Japanese, Korean and Russian to bring considerable benefits to companies, inventors and scientists around the world. The new service was launched on February 29, 2012 and as of October 2012, 13 language pairs built from and into English are freely accessible (Danish, Dutch, French, Finnish, German, Greek, Hungarian, Italian, Norwegian, Polish, Portuguese, Spanish and Swedish).

International and European Cooperation

The EPO continues to be engaged in different types of cooperation programs in and outside Europe: including IP5, Trilateral Cooperation and several bilateral agreements.

The EPO provides supports to Patent offices in Europe through cooperation activities within the European Patent Network, focusing on three main areas: information technology; training; patent awareness and patent information. The European Patent Academy has a very active role.

The EPO is playing an important supporting role in the creation of a Unitary Patent in the EU. It is intended that this will be a European patent granted by the EPO under the EPC to which unitary effect would be given after grant at the patentee's request. The EPO will become responsible for managing several tasks in relation to the Unitary Patent.

The EPO has a long experience in cooperation activities with many patent offices. It was further strengthened by several bilateral strategic agreements concluded in 2011 with important partners such as Brazil, P.R. China and Russia. A cooperation agreement was signed with the Office for Harmonization in the Internal Market responsible for registering trademarks and designs in the EU, in order to better coordinate the efforts to

promote the use of IP rights in Europe. A similar agreement was signed with WIPO at the global level.

Substantial progress was made on the Cooperative Patent Classification (CPC) developed in cooperation with the USPTO. At the end of 2011, together with the JPO and the USPTO, the EPO launched an important harmonization project to implement a new tool called *Common Citation Document* that is aimed at creating synergies and efficiencies.

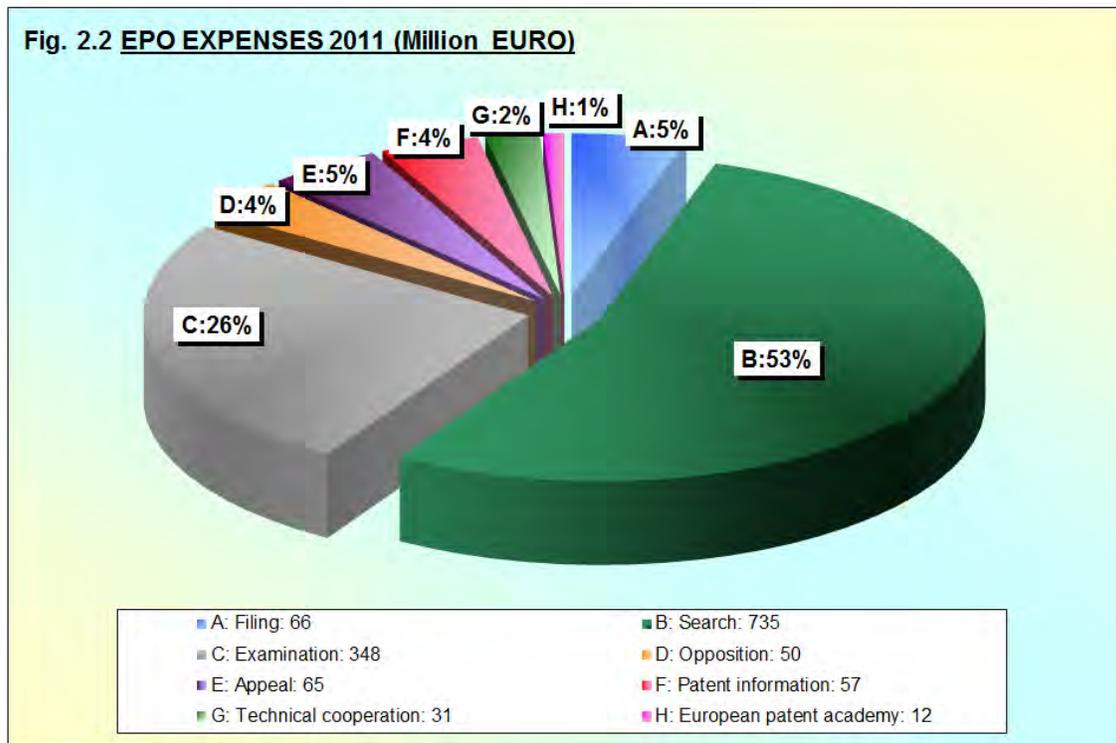
EPO Budget

The EPO is financially autonomous and does not receive any subsidies from the Contracting States of the Organization. Expenses are to be covered entirely out of revenue mainly from patent fees paid by applicants and patentees. In 2011, the EPO budget amounted to 1.6 billion EURO.

Fees related to the patent grant process, such as the filing, search, examination, and appeal fees as well as renewal fees for European patent applications (i.e. before grant) are paid to the EPO directly. 50 percent of the renewal fees for European patents (i.e. after grant) is kept by the Contracting States of the Organization where the European patent is validated after the central grant process.

On the expenses side, in addition to salaries and allowances usually supported by a Patent office, the EPO also has to finance other social staff expenses such as pensions, sickness, long-term care as well as education costs for the children of the employees. The EPO is responsible for a community of about 30,000 persons (mostly active staff, pensioners and their families).

Fig. 2.2 shows EPO expenses under the International Finance Reporting Standards (IFRS) by category in 2011.



A description of the items in Fig. 2.2 can be found in Annex 1.

EPO Staff

In 2011, 44 examiners were recruited. By the end of the year, the staff totalled 6,726 from 32 different European nationalities. There were 3,949 examiners in search, examination and opposition; and 158 members of Board of Appeal. They have to master the three official languages of the EPO (English, French and German) in their daily work. EPO examiners are trained during three years following their recruitment before being considered as fully productive.

More information

Further information can be found on the EPO's Homepage:

www.epo.org

JAPAN PATENT OFFICE

Development of Intellectual Property Policy

The "New Growth Strategy ~ Blueprint for Revitalizing Japan ~ " that was forged by the Cabinet on June 18, 2010, mentions the importance of promoting the utilization of IP to encourage innovation and the "The Intellectual Property Promotion Plan 2011" established by "The Intellectual Property Policy Headquarters," headed by the Prime Minister. This states four main strategies by which IP can support new challenges in the global network era: (1) furthering international standardization; (2) enhancing competitiveness in IP innovations; (3) creating the most advanced digital network; and (4) promoting "Cool Japan." Among these strategies, the second strategy clearly refers to enhancing the competitiveness of the Japanese "Intellectual Property System" and promoting the use of "knowledge" produced in Japan, along with enhancing competitiveness based on IP and international standardization. With this in mind, the JPO is working to provide a much more user-friendly IP System for a wide range of entities such as Small and Medium Size Enterprises (SMEs) and universities, while appropriately responding to the changes in the environment surrounding the IP System.

Efforts Related to Patents

The JPO has made various efforts for achieving its long-term target for reducing first action pendency to 11 months by 2013, as indicated in the "Intellectual Property Strategic Program 2004" formulated by the Intellectual Property Strategy Headquarters in 2004. These efforts include the following.

1. Efforts to Speed Up Patent Examination

Methods to Expedite Patent Examination

1) Ensuring the Necessary Number of Examiners

While the JPO is working to raise the efficiency of the examination process, it still will need to increase the number of patent examiners so as to greatly enhance its examination capability in terms of examination. The JPO has significantly increased the number of examiners by hiring around 490 fixed-term examiners in five years, from FY 2004 to FY 2008. Moreover, since FY 2009, the fixed-term examiners who completed the five-year term were re-hired to maintain the JPO's examination capabilities.

2) Increasing and Enhancing Outsourcing of Prior Art Document Searches

The number of prior art document searches outsourced in FY 2011⁹ decreased by

⁹ The fiscal year begins in April at the JPO

1.6 percent to 242,000, of which dialogue-style outsourcing¹⁰ with a high level of examination efficiency accounted for 89 percent, or 214,000 searches. Although the number of prior art document searches outsourced decreased due to the decrease in the number of patent backlogs, the number of dialogue-type outsourcing has been increasing. It is expected that examination efficiency will further improve by the JPO making use of dialogue-type outsourcing.

2. Efforts to Obtain Stable Rights

In order for companies to safely utilize their own intellectual property rights in the global market and to perform business activities, it is essential that patent rights be granted as stable and valid patent rights all over the world. Stable rights, to be valid in the world, require that there are no reasons anywhere for invalidation, that a clear line between other rights is set, and that the rights are not unnecessarily restrictive.

Therefore, it is important to deepen understanding of many factors such as technologies subject to examination and related technical fields. In addition, it is important to conduct accurate prior art document searches including national and overseas documents, and implement quality control of patent examination in a way that the results notified to applicants are based on high-quality examination procedures. In addition, it is necessary to review the examination standards, etc. where necessary in response to the opinions of users and the results of appeals/trials and judgments from the viewpoint of international system harmonization.

a. Efforts for International Work Sharing

Following the global increase in the patent applications amidst the ongoing globalization of economic and business activities, and the increasing importance of intellectual property along with such globalization, the number of duplicate applications, i.e., the same invention being filed in multiple offices is increasing. In line with this increase, the examination workload at each office has also been increasing. Under this situation, the JPO is promoting work-sharing of patent examinations with various IP offices, using the framework of the Patent Prosecution Highway (PPH), to improve the accuracy and efficiency of examinations worldwide under the aim of creating an environment where applicants can tightly protect their intellectual property worldwide. Applicants can obtain considerable benefits from this program.

The first benefit is improved patent quality. Since examiners in the JPO and the USPTO examine the application based on the same claims in principle, the foreseeability of acquisition of a patent becomes higher for the applicant and it is possible to acquire a more stable right and the grant rate becomes higher comparison with the ordinal patent applications as well.

¹⁰ “Dialogue-style outsourcing” is an outsourcing method in which the patent examiner receives a report on the prior art search result from the searcher, together with an oral presentation by the searcher based on the report in order to raise the understanding of the examiner on the details of the invention and prior art documents.

The second benefit is accelerated examination. For example, in the JPO, the average first action pendency was about 25.9 months in 2011, while the examination pendency of PPH applications, from the acceptance of the PPH request up to the commencement of the examination was about 1.7 months in 2011.

The third benefit is reduced costs to acquire rights. It can be assumed that once a reason for refusal has already been sent by one office, it is not necessary for all the other offices to send notifications. As a result, average number of Office Actions would be less rather than the ordinal patent applications, thereby reducing the cost. This enables the applicants to save costs when acquiring patents, allowing more investments to be made in additional R&D activities.

(JP-Fast Information Release Strategy (JP-FIRST))

The JPO began implementing JP-FIRST in 2008, taking account of the patent system of the JPO. The JP-FIRST allows the Office of Second Filing (OSF) to make more use of examination results of the JPO, the Office of First Filing (OFF). This strategy is expected to enable Japanese applicants to acquire appropriate patent rights in foreign offices. Providing the results of the first action by the JPO earlier, alleviates the amount of examination workload at all offices overall. Therefore, promoting the utilization of these results in foreign offices is important.

3. Initiatives to Achieve Future Patent Strategies

The international environment surrounding intellectual property is drastically changing because of economic globalization and the expansion of emerging markets such as Asia. Japanese companies expand their intellectual property strategies on a global basis. Under such a situation, the number of applications filed by Japan to overseas offices has greatly increased. In addition, the regions where the applicants filing tendency have changed, from the Trilateral Offices (the JPO, the EPO and the USPTO) to the IP5 offices, namely the Trilateral Offices plus the KIPO and the SIPO. Additionally, with P.R. China becoming the second largest economic power, surpassing Japan, the number of lawsuits in P.R. China has rapidly increased along with the large increase in number of patent applications.

In view of these circumstances, the JPO formulated and publicized the “International Intellectual Property Strategies” in July 2011 with the aim of improving the international IP infrastructure so that Japanese companies can smoothly conduct businesses all over the world.

Table 2.2: JPO NUMBER OF PATENT EXAMINERS

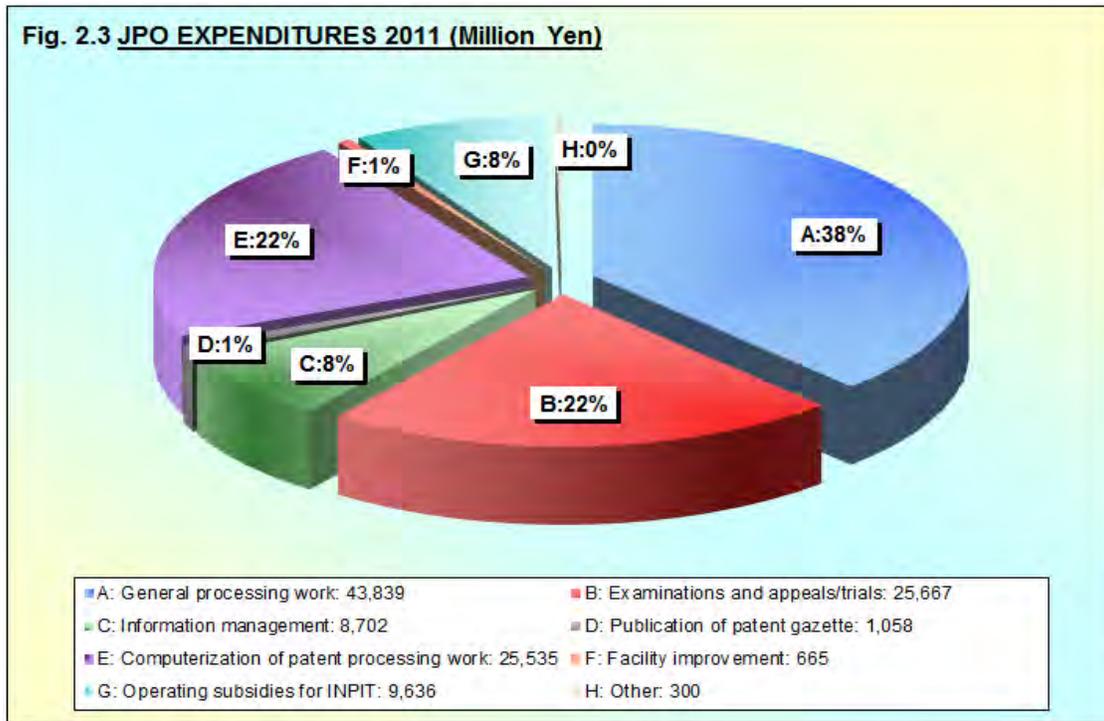
Examiners	FY 2010	FY 2011	Change	% Change
Regular	1,213 (+11)	1,221 (+8)	8	1%
Fixed-term	490	490	0	--
Total	1,703 (+11)	1,711 (+8)	8	0%

Table 2.3: JPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2010	2011	Change	% Change
Applications filed				
Domestic	290,081	287,580	-2,501	-1%
Foreign	54,517	55,030	513	1%
Total	344,598	342,610	-1,988	-1%
Examination				
Requests	255,192	253,754	-1,438	-1%
First actions	377,089	363,876	-13,213	-4%
Final actions	374,891	364,712	-10,179	-3%
Grants				
Domestic	187,237	197,594	10,357	6%
Foreign	35,456	40,729	5,273	15%
Total	222,693	238,323	15,630	7%
Appeals/Trials				
Demands for Appeal against examiner's decision of refusal	27,889	26,663	-1,226	-4%
Demands for Trial for invalidation	237	269	32	14%
PCT activities				
International searches	29,993	35,633	5,640	19%
International preliminary examinations	1,952	2,198	246	13%

JPO Budget

Fig. 2.3 shows JPO expenditures by category in 2011.



A description of the items in Fig. 2.3 can be found in Annex 1.

JPO Staff Composition

As of the end of FY 2011, the total number of staff at the JPO was 2,895. This includes 490 fixed-term patent examiners.

Examiners:	Patent / Utility model:	1,711
	Design:	51
	Trademark:	148
Appeal examiners:		387
General staff:		598
Total:		2,895

More information

Further information can be found on the JPO's Homepage:

www.jpo.go.jp

KOREAN INTELLECTUAL PROPERTY OFFICE

Mission Statement

The KIPO is the government agency in charge of IP matters in Korea. Its mission statement is as follows:

To contribute to technological innovation and industrial development by facilitating the creation, commercialization and utilization of intellectual property and by strengthening the protection of intellectual property.

The KIPO strives to fulfil its mission by implementing diverse policies focused on timely, high-quality examinations.

Statistical Overview of 2011

The KIPO received 178,924 patent applications in 2011, and its requests for international searches soared from 22,707 in 2010 to 25,666 in 2011. R. Korea increased PCT applications by 8.0 percent in 2011 to 10,447. International applications under the PCT by Korean applicants have steadily increased annually primarily due to a clear understanding of the advantages of the PCT system, rising awareness of the importance of Intellectual Property Rights (IPR), and continued efforts to consolidate patent rights abroad.

The number of international searches received by the KIPO totalled 25,666 in 2011, a 13.0 percent rise from 22,707 in 2010. Of these, the number of requests submitted by Korean applicants reached 9,950, a 12.7 percent increase from 2010. The number of requests made by foreign applicants, including those of the U. S., amounted to 15,716 or 13.3 percent more than 2010. The number of requests made by applicants of the U.S. accounted for 59.1 percent of all international searches received by the KIPO and 96.5 percent of all foreign international searches.

The number of international preliminary examinations requests (IPEA) received by the KIPO in 2011 was 226, a 16.3 decrease from 270 in 2010. This is a continuation of a decreasing trend. Since 2002, the time limit for all PCT applications to move from international stage filing to national phase entry was increased from 20 to 30 months. Since 2004, for all PCT applications a first opinion on patentability is given by the ISA. Both of these changes removed special advantages previously possessed only after requesting an IPEA.

The number of international search reports of international patent applications under the PCT increased by 10.3 percent from 2010 to 22,988 in 2011. Conversely, PCT international preliminary examination reports plunged by 30.9 percent from 2010 to 224.

International Cooperation

The KIPO has implemented PPH with nine countries. In July 2011, the PPH with Spain went into effect. The other eight countries are: Japan, the U.S., Denmark, the United Kingdom, Canada, Russia, Finland, and Germany. It also established its first PCT-PPH with the U.S. in 2011.

The KIPO was actively engaged in bilateral cooperation activities during 2011, with more than 20 meetings with other offices around the world. Some of the areas of cooperation included work sharing, examiner programs, and IP automation.

The KIPO also continues implementing activities to support developing countries and the least developed countries in cooperation with international organizations such as the WIPO.

IP Office Automation System

In 1999, the KIPO launched the KIPOnet system, an internet-based e-filing and work processing system for the filing and receipt, examination, registration, trial, and publication of applications for patent, utility model, design, and trademark rights. The constant improvement of this system has led to the development of the 3rd generation KIPOnet (KIPOnet III) beginning in 2009. The latest version of the system, launched on January 1, 2012, reflects the amendments of the Patent, Trademark and Industrial Design Protection Acts in order to cope with the international harmonization and simplification of IP rights and the R. Korea- U.S. Free Trade Agreement. KIPOnet III provides a more simplified e-filing software suite and Easy-Web filing system, both of which support an automated search function for similar prior patents of each application. In addition, KIPOnet III has incorporated the Intelligent Search System, which enables automatic prior art searches of similar technologies for each application during examination as well as a drawing interpretation function which links the names of each part of a drawing(s) to their corresponding symbol.

The KIPO is continuously fortifying the protection of information by building various management and security related systems. This year, the KIPO introduced the latest IT technology called cloud technology, which restricts the processing and saving of all work data to only a central server, in order to prevent the leakage of IP-related documents and information.

Providing Comprehensive IP Support to SMEs

To provide support for IP creation by SMEs, the KIPO has established 31 regional IP centers nationwide where patent, brand, and design experts provide consultations on various IP issues. In addition, the KIPO provided 176 sessions of IPR training for 3,740 people over the past year to foster IP manpower at SMEs. The KIPO plans to continue these efforts throughout 2012.

IP Policies

In 2008, the KIPO's IPR examination policy underwent a paradigm shift. The focus shifted from high-speed examinations to a customer-oriented approach to examination and trial systems.

1) Customized three-track patent examination

The three-track patent examination system was launched on October 1, 2008. It enables customers to select an examination track that suits their patent strategy. They can choose an accelerated, regular, or customer-deferred examination. The accelerated track helps customers acquire patent rights expeditiously so that they can secure an exclusive position in the market. The customer-deferred track, on the other hand, gives customers ample time to prepare for the commercialisation of the invention.

2) Super-accelerated examinations for green technology

A super-accelerated examination system for green technology was introduced in October 2009. The aim of this system is to ensure that the examination results for green technology are provided more expeditiously than the accelerated track (that is, within a month of the request). The system, which was researched and developed in accordance with the national strategy of "low carbon, green growth", is limited to technologies that are either designated in environmental laws or classified as green by the government (in the form of financial aid or certification). Other prerequisites for a super-accelerated examination include a prior art search report from one of the designated prior art search organisations and a statement (on the application form) on the purpose of the super-accelerated examination.

3) Three-track patent trial system

In the KIPO's former preferential patent trial system, some types of cases took priority over general cases. However, in November 2008, the KIPO adopted a patent trial system with three separate tracks: a regular track, an accelerated track, and a super-accelerated track. The super-accelerated trial proceeds as follows: after both parties have applied for a super-accelerated trial, an oral hearing is held within a month of the deadline for submitting a written reply, and a trial decision is made within two months of the oral hearing. Thus, the parties are informed of the trial decision within four months of requesting the trial. An accelerated trial generally takes six months, and a regular trial takes about nine months.

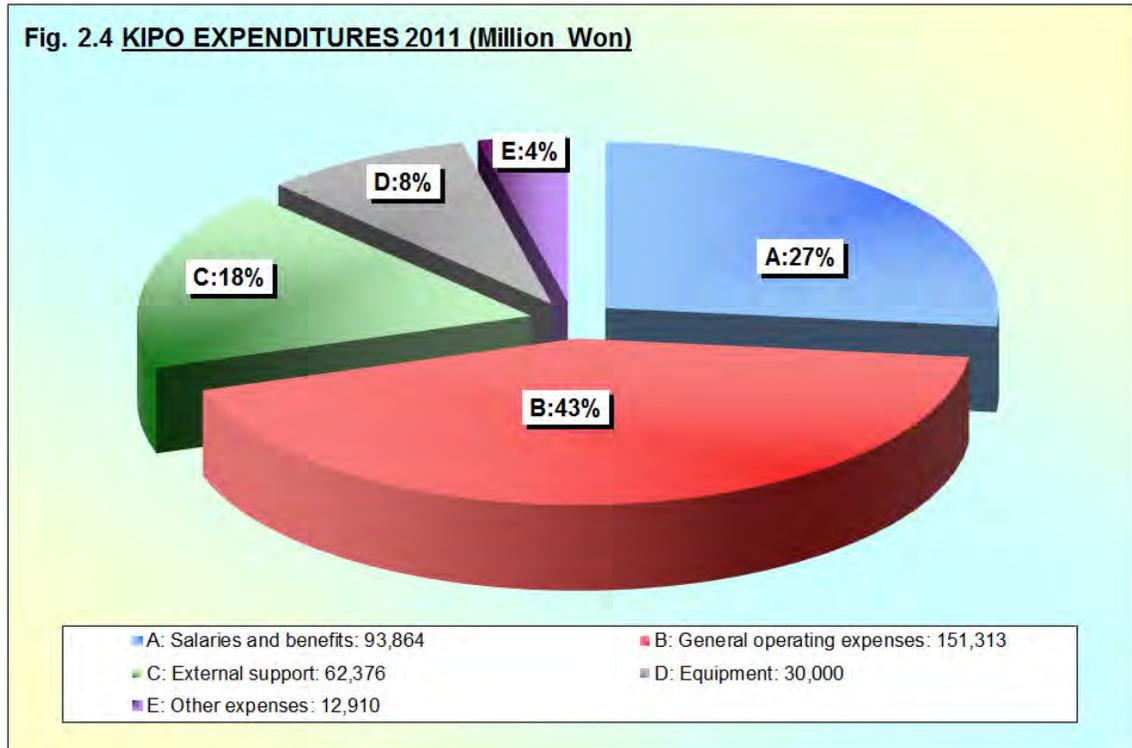
Table 2.4: KIPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2010	2011	Change	% Change
Applications filed				
Domestic	131,805	138,034	6,229	4.7%
Foreign	38,296	40,890	2,594	6.8%
Total	170,101	178,924	8,823	5.2%
Examination				
Requests	143,071	149,987	6,916	4.8%
First actions	125,633	174,283	48,650	38.7%
Final actions	110,356	151,184	40,828	37.0%
Grants				
Domestic	51,404	72,258	20,854	40.6%
Foreign	17,439	22,462	5,023	28.8%
Total	68,843	94,720	25,877	37.6%
Applications in appeal				
	9,270	9,664	394	4.3%
PCT activities				
International searches	20,810	23,166	2,356	11.3%
International preliminary examinations	324	224	-100	-30.9%

KIPO Budget

In 2011, the KIPO had a total expenditure of 350,463 million won. Twenty-seven percent of the expenditure was allocated to salaries and benefits, 43 percent to general operating expenses, 18 percent to external support, 8 percent to equipment, and 4 percent to other expenses.

Fig. 2.4 shows KIPO expenditures by category in 2011.



A description of the items in Fig. 2.4 can be found in Annex 1.

KIPO Staff Composition

At the end of 2011, the KIPO had a total staff 1,576. The breakdown is as follows.

Examiners	
Patents and Utility Model	794
Designs and Trademarks	134
Appeal examiners	99
Other staff	549
Total	1,576

More information

Further information can be found on the KIPO's website:

<http://www.kipo.go.kr/>

STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R. CHINA

Organizational Structure and Personnel

The SIPO has seven functional departments, a supervision department, a retired personnel department, and subsidiaries as the Patent Office, the Patent Reexamination Board, some public institutions and social organizations. In total, the SIPO has 8,284 full-time employees.

The Patent Office, an organization under the SIPO with 16 departments and one affiliated enterprise, is mainly responsible for receiving and examining patent applications, granting patents and handling other administrative matters entrusted by the SIPO. It has a staff of 3,169 at present, among which 2,112 employees are examiners for invention patents, 270 employees are for utility models and designs, 297 employees are for preliminary examination and work-flow management. Moreover, 275 employees work in support departments (i.e. patent documentation, automation, examination affairs administration) and 215 employees are responsible for general administration. The Patent Examination Cooperation (Beijing) Center, an institution under the Patent Office, was founded in 2001 to share the responsibility of patent examination, and has 3,026 staff members at present. In 2011, the Patent Examination Cooperation (Jiangsu) Center and the Patent Examination Cooperation (Guangdong) Center were established to meet the needs resulting from the trend of a rapid increase in patent filings. Currently, the two Patent Examination Cooperation Centers outside of Beijing are still under development.

The Patent Reexamination Board, affiliated directly with the SIPO, has a staff of 275, and is responsible for processing requests for patent reexamination and invalidation of patent rights.

Patent Examination Status

In accordance with the *Patent Law of the People's Republic of China*, the SIPO is the authority to receive and examine applications for invention, utility model and design patents and to grant patent rights in compliance with the *Patent Law*. The mechanism of earlier publication and request for substantive examination applies when processing invention patent applications, while the duration of patent rights for invention is 20 years, counted from the date of filing. The preliminary examination mechanism applies when processing utility model and design applications, while the duration of patent rights for utility models and designs is 10 years respectively, counted from the date of filing.

International Cooperation

In 2011, the SIPO actively took part in international affairs concerning intellectual property rights, publicized the IP policies and achievements of P.R. China, and deepened cooperation with various IP institutions and organizations.

The cooperation of the IP5 and the SIPO-JPO-KIPO cooperation increased. The SIPO

continued to expand bilateral cooperation with the number of partners growing steadily and the content of cooperation becoming more profound. The SIPO signed several bilateral cooperation agreements in 2011 with important IP partners such as the EPO and the USPTO. The main objective is to further enhance the level of mutual cooperation in order to promote work-sharing among the offices which could reduce unnecessary duplication of work and increase examination efficiency.

Patent Applications Received in 2011

In 2011, the SIPO received 1,633,347 applications for the three kinds of patents representing an increase of 34 percent compared with the previous year. 526,412 applications were for invention patents, an increase of 35 percent compared with the year before, 585,467 for utility model patents, an increase of 43 percent, and 521,468 for design patents, an increase of 24 percent.

Patents Granted in 2011

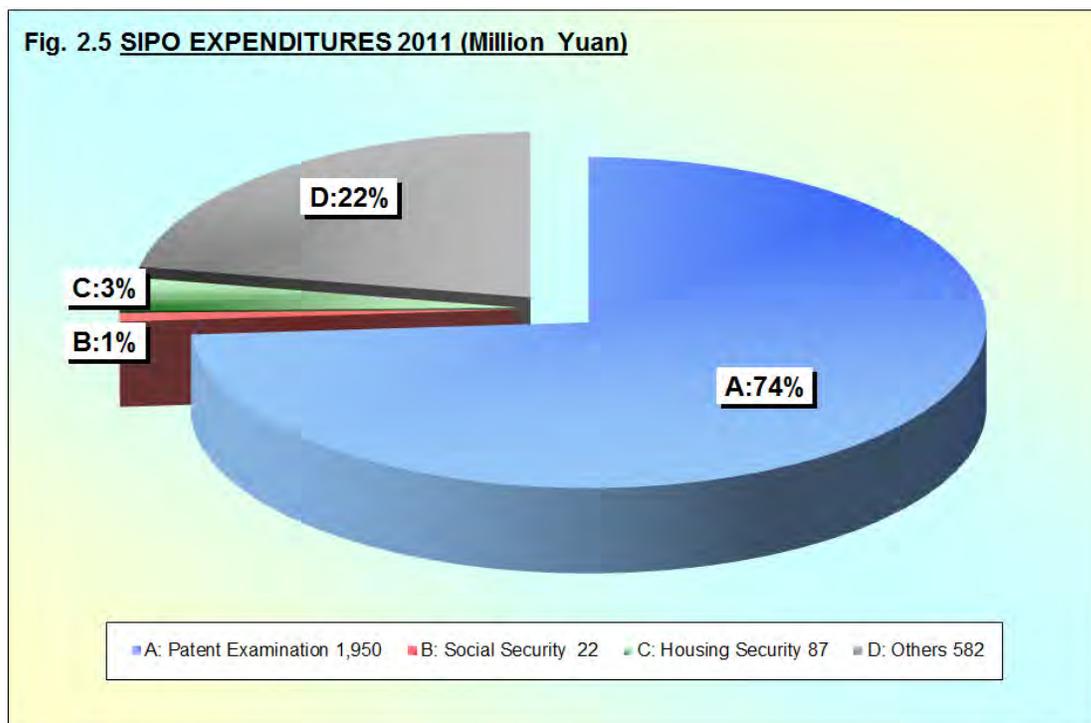
In 2011, the SIPO granted 960,513 patents reflecting an increase of 18 percent compared with the previous year. 172,113 were for invention patents, an increase of 27 percent compared with the year before, 408,110 for utility model patents and 380,290 for design patents, increasing by 18 percent and 13 percent respectively.

Table 2.5: SIPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2010	2011	Change	% Change
Applications filed				
Domestic	293,066	415,829	122,763	42%
Foreign	98,111	110,583	12,472	13%
Total	391,177	526,412	135,235	35%
Examination				
First actions	262,526	292,157	29,631	11%
Final actions	237,304	271,202	33,898	14%
Grants				
Domestic	79,767	112,347	32,580	41%
Foreign	55,343	59,766	4,423	8%
Total	135,110	172,113	37,003	27%
Re-Examination and Invalidation				
Requests for Re-Examination	12,299	12,850	551	4%
Requests for Invalidation	509	566	57	11%
PCT activities				
International Search Reports	10,453	14,553	4,100	39%
International Preliminary Examination Reports	393	325	68	-17%

SIPO Budget

Fig. 2.5 shows SIPO expenditures by category in 2011.



A description of the items in Fig. 2.5 can be found in Annex 1.

SIPO Staff Composition

At the end of 2011, the SIPO had a total staff of 8,284. The breakdown is as follows.

SIPO Functional Department	88
Patent Office: Examiners: Invention	2,112
Utility Model & Design	270
Preliminary Examination and Flow Management	297
Supporting Departments	275
General Administration	215
Total	3,169
Patent Re-Examination Board	275
Other Subordinate Unites Under the Office	4,752
Total	8,284

More information

Further information can be found on the SIPO's website:

www.sipo.gov.cn

UNITED STATES PATENT AND TRADEMARK OFFICE

Mission Statement

The mission of the United States Patent and Trademark Office is:

Fostering innovation and competitiveness and economic growth, domestically and abroad to deliver high quality and timely examination of patent and trademark applications, guiding domestic and international intellectual property policy, and delivering intellectual property information and education worldwide, with a highly skilled, diverse workforce.

The USPTO is pivotal to the success of innovators. In fulfilling the mandate of Article 1, Section 8, Clause 8, of the U.S. Constitution, “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries” the USPTO is on the cutting edge of the United States’ technological progress and achievement.

As an agency of the U.S. Department of Commerce, the primary services provided by the USPTO are examining patent and trademark applications and disseminating patent and trademark information. The USPTO provides valued products and services to its customers in exchange for fees that are appropriated to fund its operations. The powers and duties of the USPTO are vested in the Under Secretary of Commerce for Intellectual Property and Director of the USPTO, who consults with the Patent Public Advisory Committee and the Trademark Public Advisory Committee. The USPTO operates with two major business lines, Patents and Trademarks.

USPTO Strategic Plan

A well-run USPTO is critical to the nation’s continued economic prosperity. The *2010-2015 Strategic Plan* communicates the USPTO’s priorities and directions, and serves as the foundation for programmatic and management functions. The *Plan* is designed to strengthen the capacity of the USPTO, to improve the quality of patents and trademarks that are issued, as well as to shorten the time it takes to obtain a patent. The *Plan* outlines a focused, specific set of goals and the steps that must be taken to reach those goals.

- Goal 1: Optimize Patent Quality and Timeliness.
- Goal 2: Optimize Trademark Quality and Timeliness.
- Goal 3: Provide Domestic and Global Leadership to Improve IP Policy, Protection and Enforcement Worldwide
- Management Goal: Achieve Organizational Excellence.

Agency News

On September 16, 2011, President Obama signed into law (P.L. 112-29) the Leahy-Smith AIA. The AIA promotes innovation by improving patent quality, clarifying patent rights, reducing the application backlog, reducing domestic and global patenting costs, providing greater certainty in patent rights, and offering effective alternatives to costly patent litigation. The AIA transitions the U.S. from a first-to-invent to a first-inventor-to-file system, allows for third party submission of prior art, provides enhanced proceedings for post-grant patent reviews, and authorizes establishment of the USPTO satellite offices beyond the Alexandria, VA/Washington, D.C. area.

The AIA also grants the Agency fee-setting authority enabling the USPTO to set and adjust fees to reflect the actual costs of the services it provides. The AIA also defines a new applicant classification – micro entity. For many years the USPTO has offered a small entity discount of 50 percent on many patent fees. The AIA allows the Agency to offer a 75 percent discount for qualifying micro entities on fees for filing, searching, examining, issuing, appealing, and maintaining patent applications and patents. The AIA authorizes the USPTO to offer prioritized examination for non-provisional applications for an original utility or plant patent. Prioritized examination allows applicants who submit a request and pay an additional fee to have their applications accorded special status and placed on the examiner's special docket, thereby receiving accelerated examination throughout its entire course of prosecution.

Patent Quality and Timeliness

The USPTO made significant progress in FY 2011¹¹ in meeting its goal of providing timely and quality patents. While less-than-planned spending authority has greatly impacted the USPTO's ability to decrease patent pendency and the backlog, the Patent organization continued to respond to these challenges and obstacles by launching new and innovative initiatives to achieve its strategic goals. Despite budget constraints suspending routine programs such as examiner hiring, overtime, and training, the Patent organization succeeded in making progress by focusing on new methods and processes to increase efficiencies and strengthen effectiveness through collaboration, communication, and transparency.

In FY 2011, the USPTO reduced the unexamined patent application backlog to its lowest level in five years, a remarkable achievement given a 5.3 percent application growth rate in FY 2011. Another significant milestone the Agency surpassed in FY 2011 was the issuance of patent number 8 million. The USPTO granted the first patent under the current numbering system in 1836, and while it took 75 years to get to patent number 1 million, it has only taken the Agency six years to go from 7 million patents to 8 million.

¹¹ The fiscal year begins in October at the USPTO.

International Cooperation and Work-sharing

The USPTO continues to promote international cooperation by emphasizing work sharing among Patent offices as a key to efficient management of office workloads, reduction of backlogs and pendency, and improvement of the international patent system. The USPTO's primary work sharing vehicle – the PPH – has proven to be a major success, producing significant efficiency gains in terms of higher allowance rates, fewer office actions per disposal, and substantially lower percentages of appeals and continuation applications. This translates into measurable cost savings for applicants, and provides them with additional flexibility when developing their IP strategy. In 2011 the USPTO received twice as many PPH requests as were received in the preceding four years combined. These work-sharing programs reduce re-work, increase collaboration, and provide consistency between IP offices. In FY 2011, the USPTO expanded work-sharing efforts by starting new pilots, extending existing pilots, and expanding other pilots with a number of IP offices.

The USPTO and the EPO continue to promote international cooperation and work-sharing through the established activities of the dedicated IP5 Working Group and the Common Hybrid Classification Project. Beginning in January 2013, both offices will use the CPC system which has a similar classification structure and rules to the IPC. This will improve patent searching, enhance examiner efficiency, and will facilitate work-sharing and harmonizing classification systems.

In order to promote improved IP protection and enforcement, the USPTO through its Global IP Academy, expanded its programs for IP rights training, capacity building, and technical assistance offerings for other IP Offices. The USPTO also continued to work closely with the White House's IP Enforcement Coordinator to implement the Administration's IP enforcement plan, including improving the *USPTO IP Attaché Program* and establishing a U.S. Government-wide database of training and capacity building efforts.

Table 2.6: USPTO PRODUCTION INFORMATION

USPTO Production Information	2010	2011	Change	% Change
Applications filed				
Utility (patents for invention) ¹²	490,226	503,582	13,356	3%
Plant	992	1,139	147	15%
Reissue	1,180	1,151	-29	-2%
<i>Total Utility, Plant, Reissue</i>	<i>492,398</i>	<i>505,872</i>	<i>13,474</i>	<i>3%</i>
Design	29,059	30,467	1,408	5%
Provisional	142,274	153,630	11,356	8%
Total	663,731	689,969	26,238	4%
PCT Chapter I Searches	45,732	50,037	4,305	9%
PCT Chapter II Examination	1,452	1,448	-4	0%
First actions (includes utility, plant, and reissue applications)	445,245	579,088	133,843	30%
Grants (total)	219,614	224,505	4,891	2%
U.S. residents	107,792	108,626	834	1%
Foreign	111,822	115,879	4,057	4%
Japan	44,814	46,139	1,325	3%
EPC states	32,473	32,774	301	1%
R. Korea	11,671	12,262	591	5%
P.R. China	2,657	3,174	517	19%
Others	20,207	21,530	1,323	7%
Applications in appeal and interference proceedings (includes utility, plant, and reissue applications)				
Ex Parte Cases Received	14,022	13,365	-657	-5%
Ex Parte Cases Disposed	7,461	7,861	400	5%
Inter Partes Cases Declared	48	73	25	52%
Inter Partes Cases Disposed	54	54	0	0%
Patent Cases in Litigation (includes utility, plat, and reissue applications)				
Cases filed	150	136	-14	-9%
Cases disposed	150	111	-39	-26%
Pending cases (end of calendar year)	166	197	31	19%

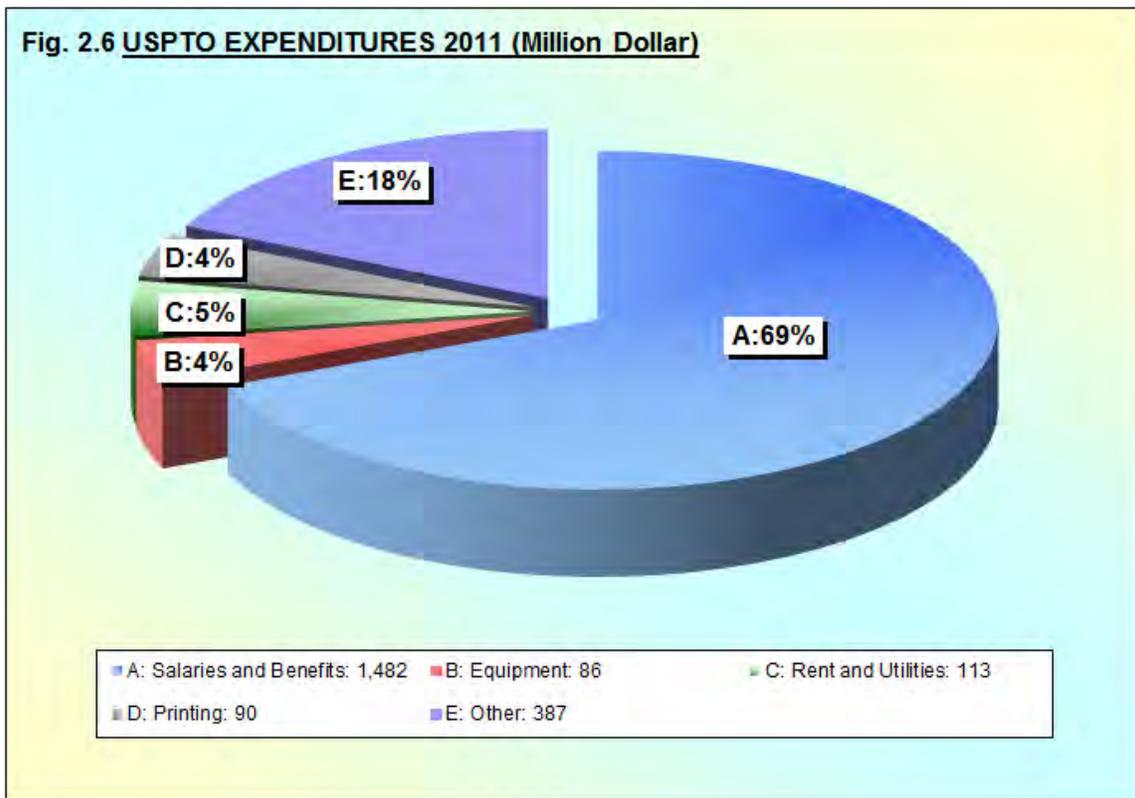
¹² Unless otherwise noted, the USPTO statistics presented elsewhere in this report are limited to utility patent applications and grants.

USPTO Budget

The USPTO utilizes an activity based information methodology to allocate resources and costs that support programs and activities within each of the three strategic goals. In FY 2011, USPTO expenditures totalled \$2,160.9 million. Agency-wide, 12 percent of expenditures was allocated to IT security and associated IT costs.

Goal 1 - Optimize Patent Quality and Timeliness	\$1,915.3 million
Goal 2 - Optimize Trademark Quality and Timeliness	\$196.4 million
Goal 3 - Provide Domestic and Global Leadership to Improve IP Policy, Protection and Enforcement Worldwide	\$49.2 million

Fig. 2.6 shows USPTO expenditures by category in 2011.



A description of the items in Fig. 2.6 can be found in Annex 1.

USPTO Staff Composition

At the end of FY 2011, the USPTO work force was composed of 10,210 federal employees. Included in this number are 6,690 Utility, Plant, and Reissue patent examiner staff and 95 Design examiners; 378 Trademark examiner attorney staff, and 3,047 managerial, administrative and technical support staff.

More Information

Further information can be found on the USPTO's website:

<http://www.uspto.gov/>

THE FIVE IP OFFICES COOPERATION

The IP5 is the name given to a forum of the five largest intellectual property offices in the world (EPO, JPO, KIPO, SIPO and USPTO) that has been established to improve the efficiency of the examination process for patents worldwide.

The IP5 Offices account for the vast majority of all patent applications filed worldwide and for most of all work carried out under the PCT.

As the world sees economic barriers between nations fade away, innovators want their intellectual creations protected concurrently in multiple major markets. Hence, applications for the same technology are filed at more than one patent office. It is estimated that about 250,000 applications for the same inventions are filed each year in two or more of the IP5 Offices. The solution to the backlog problem is to reduce, to the maximum extent possible, the duplication of work which takes place at each office for a family of patent applications. This is all summarized by the concept of work-sharing.

Work-sharing vision

The IP5 Offices have agreed that, consistent with the vision of the IP5 framework, work-sharing among the offices could reduce unnecessary duplication of work and thus contribute to prompt and accurate examination providing that the parameters of work sharing are fulfilled. These parameters are access, notification, and the reusability of work products. At the same time, work-sharing could allow different offices to examine family applications' documentation and allow mutual use of information concerning examination results. This would improve the predictability of the outcome for the applicant when essentially the same application is filed in different offices, thereby reducing the risks associated with commercializing an invention related to a pending patent. Providing that examination quality is guaranteed, work-sharing will serve as an effective approach for the IP5 to jointly enhance work efficiency and reduce work backlogs.

The PCT, FLASH, JP-FIRST and PPH

The PCT is very successful international framework and plays a significant role in work-sharing. With nearly 182,000 applications filed annually, the PCT provides for a solid work-sharing basis. Its use as a work-sharing platform will be enhanced further by the five offices.

In parallel, the IP5 Offices have agreed in the context of their own circumstances to continue and take forward on-going work-sharing projects, including the PPH, First Look Application Sharing (FLASH) and JP-FIRST.

The PPH is an applicant-driven work sharing program in which all IP5 Offices participate, be it on a Trilateral (EPO, JPO, USPTO) basis within the PCT or on an

individual basis between certain patent offices. It was launched in 2006 as a pilot between the JPO and the USPTO.

The PPH speeds up the examination process for corresponding applications filed in participating countries by allowing examiners to re-use search and examination results.

Under the PPH program, an applicant receiving a ruling from the OFF that at least one claim is patentable may request that the OSF fast track the examination of corresponding claims in corresponding applications filed in the OSF. The PPH will leverage fast-track examination procedures already available in the OSF to allow applicants to obtain patents faster and more efficiently. For example, the OSF can use the OFF's work products – such as allowances or search reports – to streamline patent processing. Since the OSF is leveraging positive work products from the OFF, the PPH program results in additional patent processing efficiencies such as fewer communications required between the Offices and applicants. These efficiencies translate into measureable benefits to users, lowering the prosecution costs on PPH applications.

The JP-FIRST is an acceleration scheme at the JPO where a patent application at the OFF having a second filing at another foreign office including the IP5 offices is accelerated in order to produce the results in a timely manner for the OSF. The EPO offers an acceleration program (PACE) to applicants free of charge should an acceleration become necessary for an applicant. The USPTO is conducting an acceleration pilot known as FLASH with the EPO and the JPO.

The 10 Foundation Projects

Work-sharing also has two prerequisites, quality and timeliness, which the ten Foundation Projects have been established to address.

Work-sharing not only requires new tools to be developed, but can only be made possible through normalized practice and operations. There are ten Foundation Projects that have been established by the IP5 Offices to support the progress of work-sharing both by building the hard environment (i.e. tools) and the soft environment (i.e. standards).

The concept of building an environment suitable for work-sharing naturally implies the creation of an information systems infrastructure to allow the offices to utilize the search and examination result information of the partner offices, and the implementation of working practices which enable the sharing and reutilization of such information by examiners. This would include an increase in transparency and coordination of the different search systems and strategies, classification scheme and philosophies, education systems, quality management systems, statistical analysis parameters and examination procedures.

Cooperation in establishing a common documentation, common classification, and common search capability, supported throughout by machine translation, will give examiners from all IP5 Offices access to prior art documentation in all relevant IP5

languages, thereby ensuring the completeness and validity of the search, enhancing patent examination quality, and guaranteeing the stability of patent rights. Access to the results of other IP5 Offices will be optimized through the IP5 cooperation.

More information on the Foundation Projects can be found under

www.fiveipoffices.org/projects.html

Statistical activities

One of the Foundation Projects is dedicated to the statistical parameters for examination. Common statistical parameters for examination will enhance communication among the IP5 Offices, improve transparency of practice, elevate trust of others' work, encourage harmonization and offer decision-making and evaluation information support for work-sharing. Through coordinating the key differences in statistical parameters for examination among the IP5 Offices, improving current parameters for the purpose of work sharing, shaping common statistical parameters for examination, the IP5 Offices may realize comparative analysis of data formed on a more uniform statistical basis, thus enhancing the pertinence and efficiency of work sharing as well as promoting harmonization.

The IP5 Offices continue to actively cooperate in other statistical projects. This is most visible via the publication of the present report. Other activities relate to the exchange of methodologies and results for various routine activities as well as specific internal projects.

Together with the statistical report, statistical data are made available on the IP5 web site under

www.fiveipoffices.org/stats.html

Chapter 3

WORLDWIDE PATENTING ACTIVITY

Patent activity is recognized throughout the world as a measure of innovation. This chapter examines worldwide patent activities in terms of patent applications and grants. The statistics mostly cover the five-year period from 2006 to 2010. The effects of the recent worldwide recession in 2009 are visible in this chapter. After a decrease in patent applications in 2009, the number of patent applications rebounded in 2010. This suggests that the effects of the recent worldwide recession on the number of patent applications at the IP5 Offices have been limited. Comparable statistics on the usage of the PCT system appear in Chapter 5.

Applications reported hereafter are counted by the calendar year of filing and grants by the calendar year of grant. Statistics are derived primarily from the Intellectual Property Statistics of WIPO¹³, as collected from each country and region. Patent statistics are sometimes retrospectively updated and where necessary and possible the counts have been augmented from other sources, but otherwise no estimated counts have been included to compensate for missing data. Considering that not all the Offices report filing statistics on a regular basis, some of these data, especially when referring to countries outside the IP5 Blocs, should be interpreted with care.

It should be noted that the number of inventions that lead to patent applications is less than the total number of applications filed. This is because the first filing with respect to an invention is usually made in one Office which is followed within a period of one year by applications to as many other Offices as required, each such application claiming the priority of the earlier first filing. First filings can be thus seen as an indicator of innovation and inventive activity, while foreign filings are an indicator of an intention for international trade and of globalization.

While demand for patent protection is considered principally by counting each national, regional or international application only once, alternative representations are also given in this chapter in terms of the demand for rights, after cumulating the number of designated countries over applications within regional procedures.

In this chapter, applications are counted in terms of patent filings; first filings; requests for patents entering a grant procedure; and demand for national patent rights. These counting methods are associated with separate sections within the chapter.

- ‘Patent filings’ include direct national, direct regional, and international PCT applications
- ‘First filings’ include initial patent applications filed prior to any later subsequent filings to extend the protection to other countries

¹³ This edition refers to general patent data as of March 2012, and to July 2012 for PCT international applications. <http://www.wipo.int/ipstats/en/statistics/patents/>.

- ‘Requests for patents entering a grant procedure’ include direct national, direct regional, national stage PCT, and regional stage PCT applications
- ‘Demand for national patent rights’ includes direct national, designated regional, national stage PCT, and designated regional stage PCT applications

Counts of patent grants, in this chapter, are based on the WIPO Industrial Property Statistics series. They are counted in the year that the grants are issued or published. As with the demand for patent protection, alternative presentations are also given in this chapter for grants in terms of the demand for rights, after cumulating the number of designated countries over applications within regional procedures.

The last part of this chapter discusses interbloc patent activity in terms of application flows between blocs and in terms of patent families. A patent family is a group of patent filings that claim the priority of a single filing, including the original priority forming filing itself and any subsequent filings made throughout the world. The set of distinct priority forming filings (that indexes the set of patent families) in principle constitutes a better measure for first filings than aggregated domestic national filings. IP5 Patent families are a filtered subset of patent families for which there is evidence of patenting activity in all IP5 Blocs.

Guide to Figures in Chapter 3

Due to the complexity of the patent system, different representations of the patent filing process are made to illustrate complementary parts of the process. The following scheme can guide the reader to graphs that correspond to the different representations.

Figs. 3.1, 3.2, 3.3 and 3.4 show the numbers of **patent filings** in terms of application forms filled out. All of the following are counted once only: Direct national, direct regional filings (filed with the EPO, EAPO, ARIPO¹⁴), and PCT international filings.

Figs. 3.5, 3.6 and 3.12 show the numbers of **requests for patents** as they entered a grant procedure. Direct applications to the Offices are counted at the date of filing. PCT applications are counted at the moment they enter the national or regional phase. Direct national and direct regional filings are counted once only. PCT filings are replicated over the numbers of national/regional procedures that are started.

Figs. 3.7, 3.8 and 3.9 show the equivalent numbers of **demands for national patent rights**. Direct national filings are counted once only. The counts for PCT applications entering national procedures are replicated over the number of countries where they enter this phase. The counts for direct regional filings and PCT regional phase filings are replicated over the number of countries designated in the applications at the time that they enter the regional procedure. This gives a representation in terms of national patenting.

Figs. 3.13, 3.14, 3.15 and Table 3 show the numbers of **patent families** that are generated as the set of first filings, counted once each only, and also show the flows between blocs in terms of the first filings for which claims to priority rights were made with subsequent filings in other countries.

Regarding grants, **Fig. 3.10** shows the numbers of **granted patents**. All grants are counted once only (in an analogous way to Figs. 3.5, 3.6 and 3.12 for applications).

Fig. 3.11 shows the numbers of **validated national patent grant registrations**. Direct national grants are counted once only, but counts for regional Office grants are replicated over the numbers of countries for which the grant provides valid registrations. This gives a representation in terms of national patent rights (analogous to Figs. 3.7, 3.8 and 3.9 for applications).

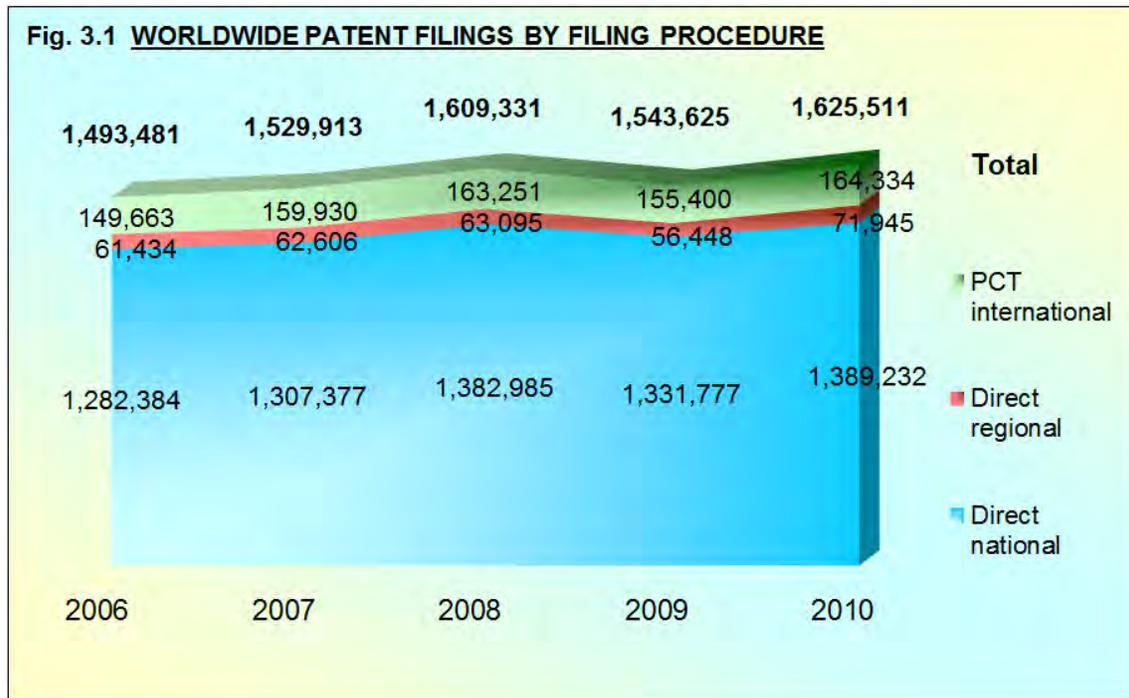
¹⁴ The EAPO is the Eurasian Patent Office. The ARIPO is the African Regional Intellectual Property Office.

PATENT FILINGS

Patent applications counted in this section include direct national, direct regional, and initial PCT applications.

This section (with Figs. 3.1, 3.2, and 3.3) shows the numbers of patent applications that were filed throughout the world. These can be filed according to the direct national, direct regional, or PCT international procedures. These applications are counted once only. The number of countries designated by regional filings and the number of countries associated with the PCT filings are not used in determining these counts. The number of applications filed represents a measure of the overall numbers of actions taken to assert IP rights around the world, although some inventions lead to filings in more than one office.

Fig. 3.1 shows the breakdown of applications filed by the three types of filing procedures.¹⁵



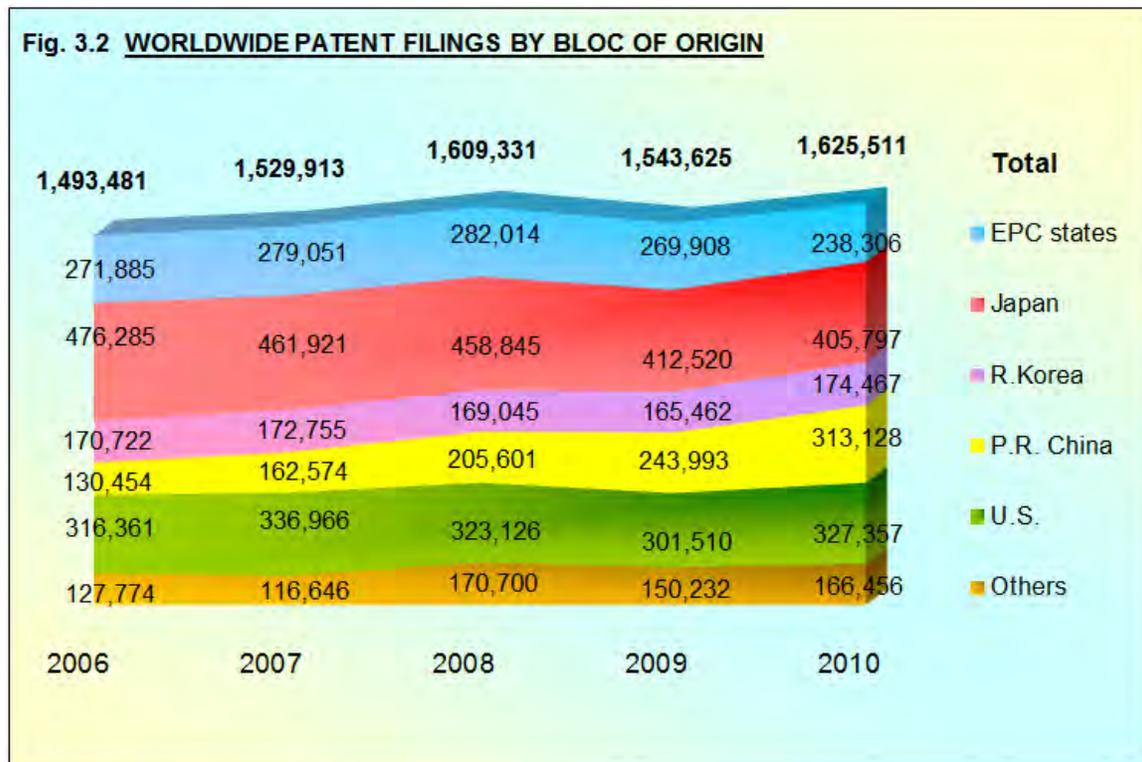
The number of patent filings in 2010 increased by 5 percent to 1.63 million. This may reflect a return to the increasing annual application filings seen prior to 2009.

In 2010, the number of PCT international, direct regional, and direct national applications increased by 6 percent, 27 percent and 4 percent respectively, and 85 percent of these applications were filed according to direct national procedures, a slight decrease from

¹⁵ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

2009 (86 percent). Relatively speaking, the PCT system continues to make an important contribution that will be discussed later.

Fig.3.2 shows the breakdown of the worldwide patent filings of Fig. 3.1 by bloc of origin (residence of first-named applicants or inventors).¹⁶

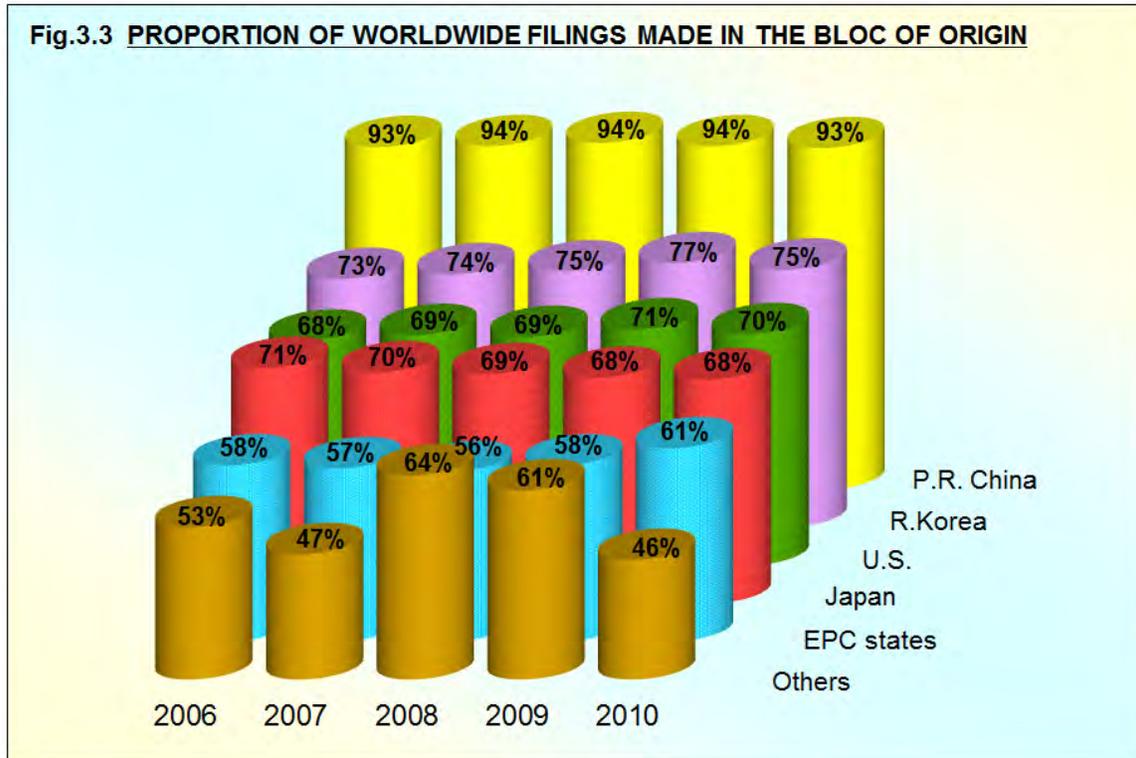


The IP5 Blocs were the origin of 91 percent of the patent filings overall from 2006 to 2010 with the annual share consistently at or above 89 percent during this period. The sharp rise of Others in 2008 was due to a larger number of offices for which statistics became available and a significant increase that was reported from some offices.

Most national applications are made by residents of the countries concerned. To a large extent, applications abroad are made using regional or international procedures.

¹⁶ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

Fig. 3.3 shows the proportion of patent filings throughout the world that are filed within the home bloc of origin (residence of first-named applicants or inventors).¹⁷



For the IP5 Blocs, P.R. China had the largest proportion of filings made at home in 2010 with 93 percent. The EPC states¹⁸ had the lowest proportion with 61 percent.

¹⁷ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

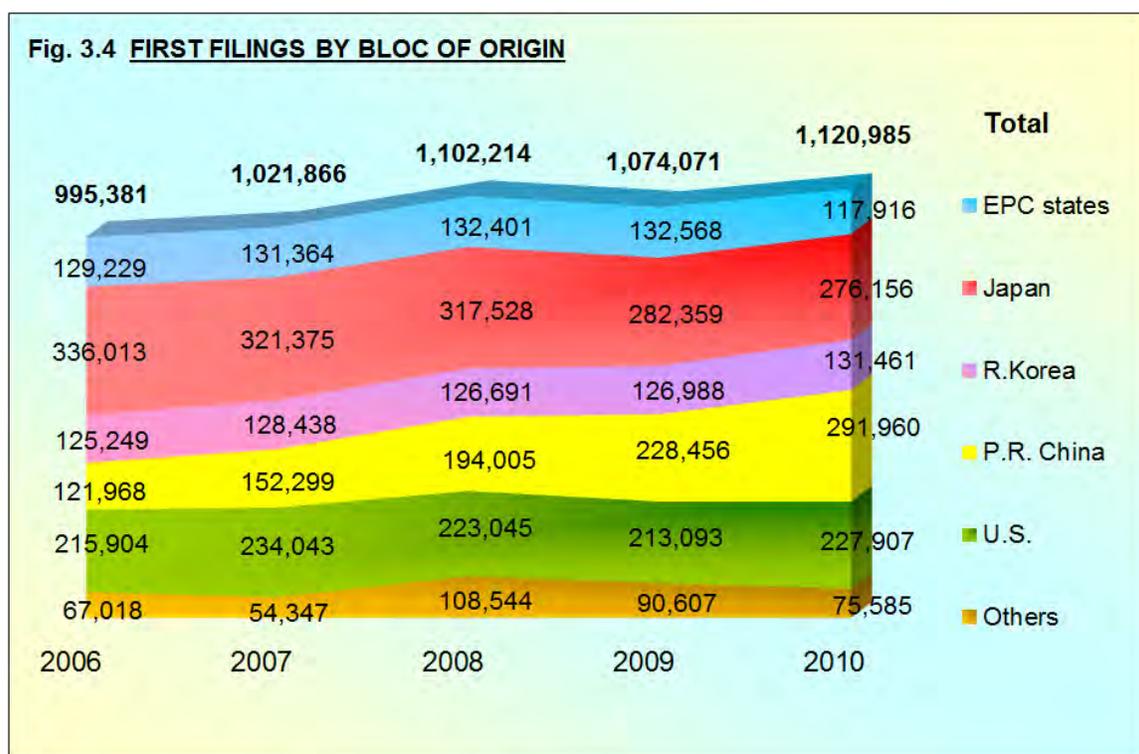
¹⁸ For the purpose of reporting statistics for the EPC states considered as a bloc, an application by an EPC states resident applicant to another EPC state or to the EPO is considered to be filed within the bloc of origin. See the EPO section of Chapter 2 for a listing of EPC states.

FIRST FILINGS

Patent applications counted in this section (with Fig. 3.4) continue to consist of initial applications. All of the following are counted once only: Direct national, direct regional filings, and PCT international filings.

The process of obtaining patent protection starts with the first filing, an initial patent application made to protect an invention or an innovation prior to any later subsequent filings to extend the protection to other countries.

Fig. 3.4 shows the development of first filings in the major filing blocs of origin (residence of first-named applicants or inventors).¹⁹



P.R. China recorded 291,960 first filings²⁰ in 2010, the highest number of first filings by any bloc within the IP5 area. This was an increase of 28 percent from its 2009 number. There were also increases in first filings from the U.S. and R. Korea of 7 percent and 4 percent in 2010, while the EPC states²¹ and Japan had decreases of 11 percent and 2 percent. Overall, first filings increased by 4 percent between 2009 and 2010.

¹⁹ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

²⁰ This figure refers to the first filings filed by domestic applicants with the SIPO in 2010.

²¹ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states.

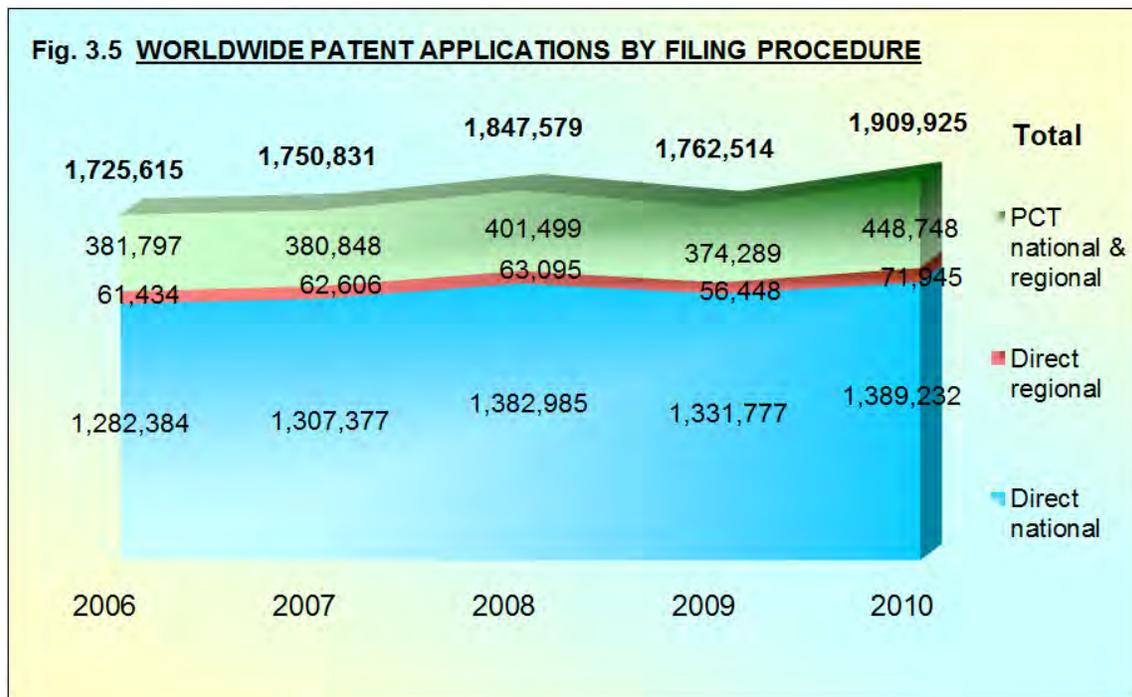
Not all domestic applications are first filings. Also not all first filings are domestic filings. Nevertheless, comparison of Figs. 3.2 and 3.4 demonstrates that there are considerable numbers of subsequent filings, where the first filing for an invention at one office leads on to further filings.

REQUESTS FOR PATENTS ENTERING GRANT PROCEDURES

Patent applications counted in this section include direct national, direct regional, national stage PCT, and regional stage PCT applications.

This section (with Figs. 3.5 and 3.6) describes the development of the number of requests for patents that entered a grant procedure. Note that direct national and direct regional applications enter a grant procedure when filed, while in the case of PCT applications, the grant procedure is delayed to the end of the international phase. In the following figures the PCT application numbers count the applications that entered a national/regional stage in the corresponding year. This leads to higher numbers than in the previous section, because one PCT international filing usually enters into several national or regional procedures. For example, one PCT application (as reported in Fig. 3.1) may result in an EPO PCT regional phase entry, a U.S. PCT national phase entry, and an Australian PCT national phase entry, thus producing three PCT national/regional entry phase applications.

Fig. 3.5 shows the development of worldwide patent applications by filing procedure.²²

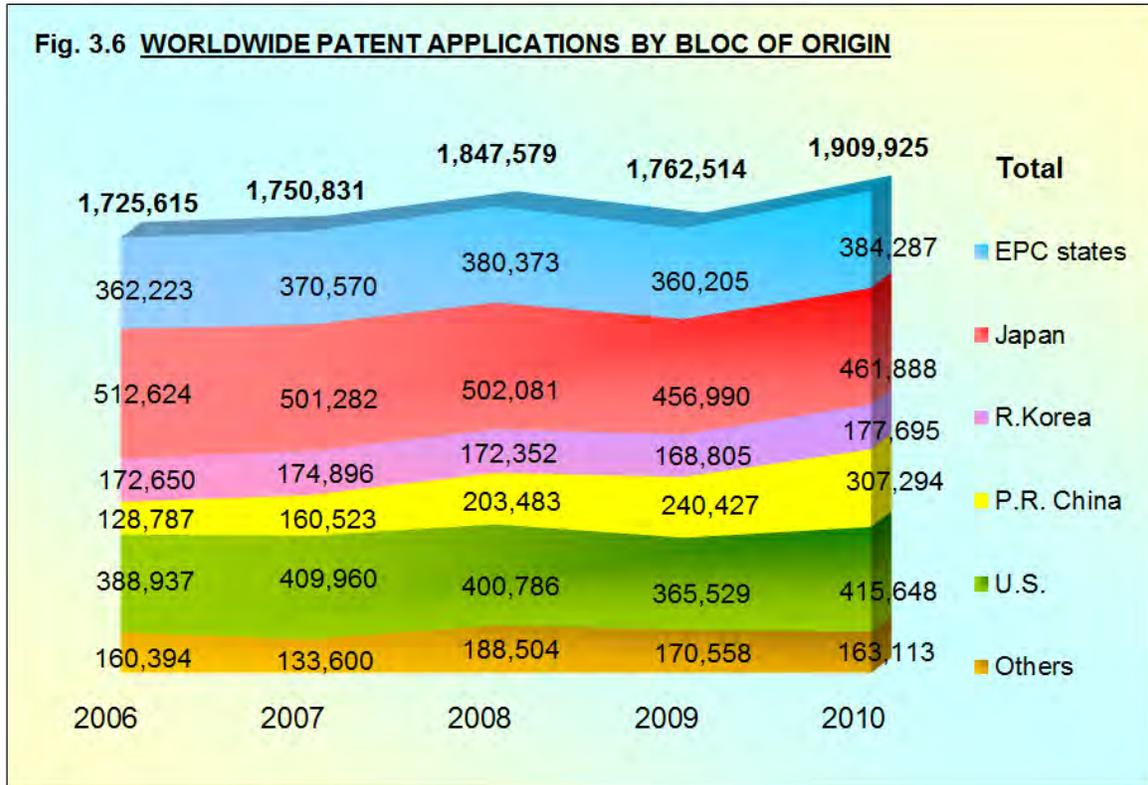


From 2009 to 2010, the number of patent applications increased in each procedure. PCT national and regional increased by 20 percent, direct regional increased by 27 percent and direct national increased by 4 percent. In total, worldwide patent applications increased by 8 percent.

²² A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

Considering the delay set in the PCT, the decrease of the number of PCT applications entering a national or regional granting procedure in 2009 corresponds to a period (2007-2008) during which the number of PCT international applications was still increasing. This might be interpreted as a lower tendency to continue PCT application into grant procedures during the period, perhaps as an effect of the worldwide recession.

Fig. 3.6 shows the origin (residence of first-named applicants or inventors) of the worldwide patent applications of Fig. 3.5 entering a national or regional granting procedure.²³



The number of patent applications increased for each of the IP5 Blocs²⁴ in 2010, with Japan remaining the region from which the largest share of applications originate. The largest percent increase in applications by origin in 2010 came from P.R. China (28 percent).

These data should be interpreted with caution as the origins of the PCT applications entering national procedures are not reported in detail by all Offices outside the IP5.

²³ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

²⁴ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states.

DEMAND FOR NATIONAL PATENT RIGHTS

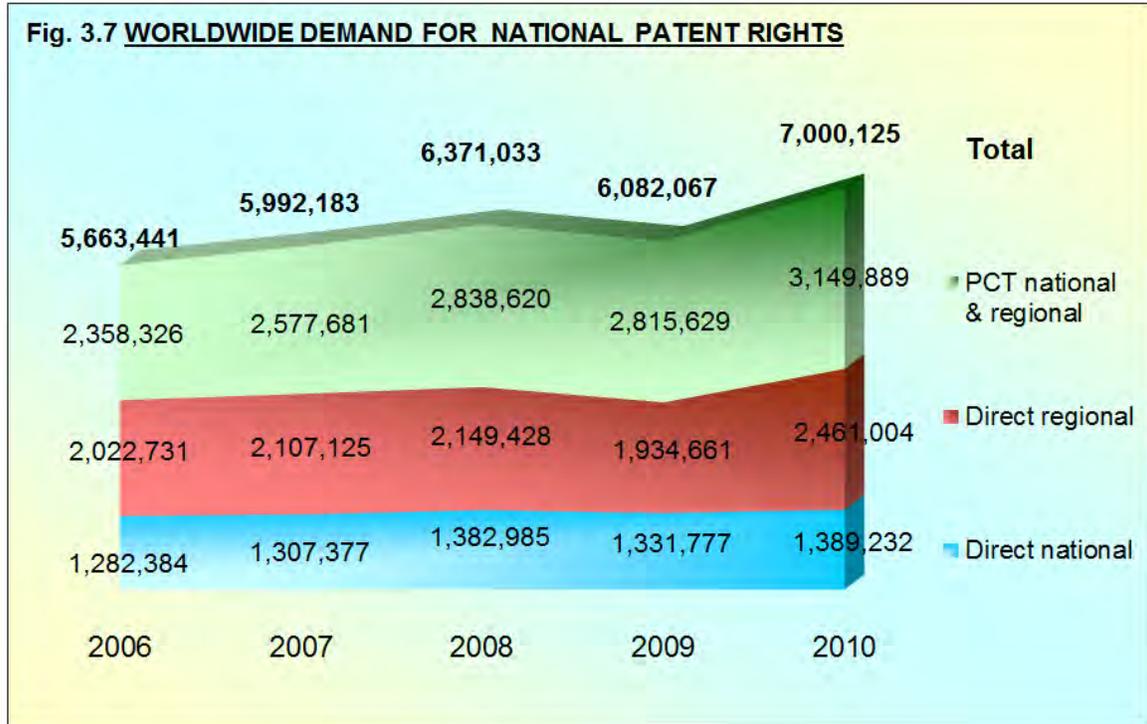
Patent applications counted in this section (with Figs. 3.7, 3.8 and 3.9) include direct national and national stage PCT applications, and designated countries in regional and in regional stage PCT applications.

With an increasing use of international and regional systems, and also the increasing number of countries joining such systems, the number of applications filed corresponds to a far larger number of demands for national patent rights. This cumulates the number of designated countries over applications. It effectively measures the number of national patent applications that would have been necessary to seek patent protection in the same number of countries if there were no international or regional systems.

The direct national applications have effect in one country only, as does any PCT application entering one national phase procedure. But direct regional applications and PCT applications entering in a regional system are demands for almost each and every individual member country. So, demand counts for regional Offices are expanded to the numbers of countries covered by regional systems²⁵.

²⁵ At the end of 2010, 78 states were party to a regional patent system, EPC 38, EAPC 9, ARIPO 15, Organization Africaine del la Propriete Intellectuelle 16. This compares to 77 states at the beginning of 2006. Also 142 states were party to the PCT, compared to 128 states at the beginning of 2006.

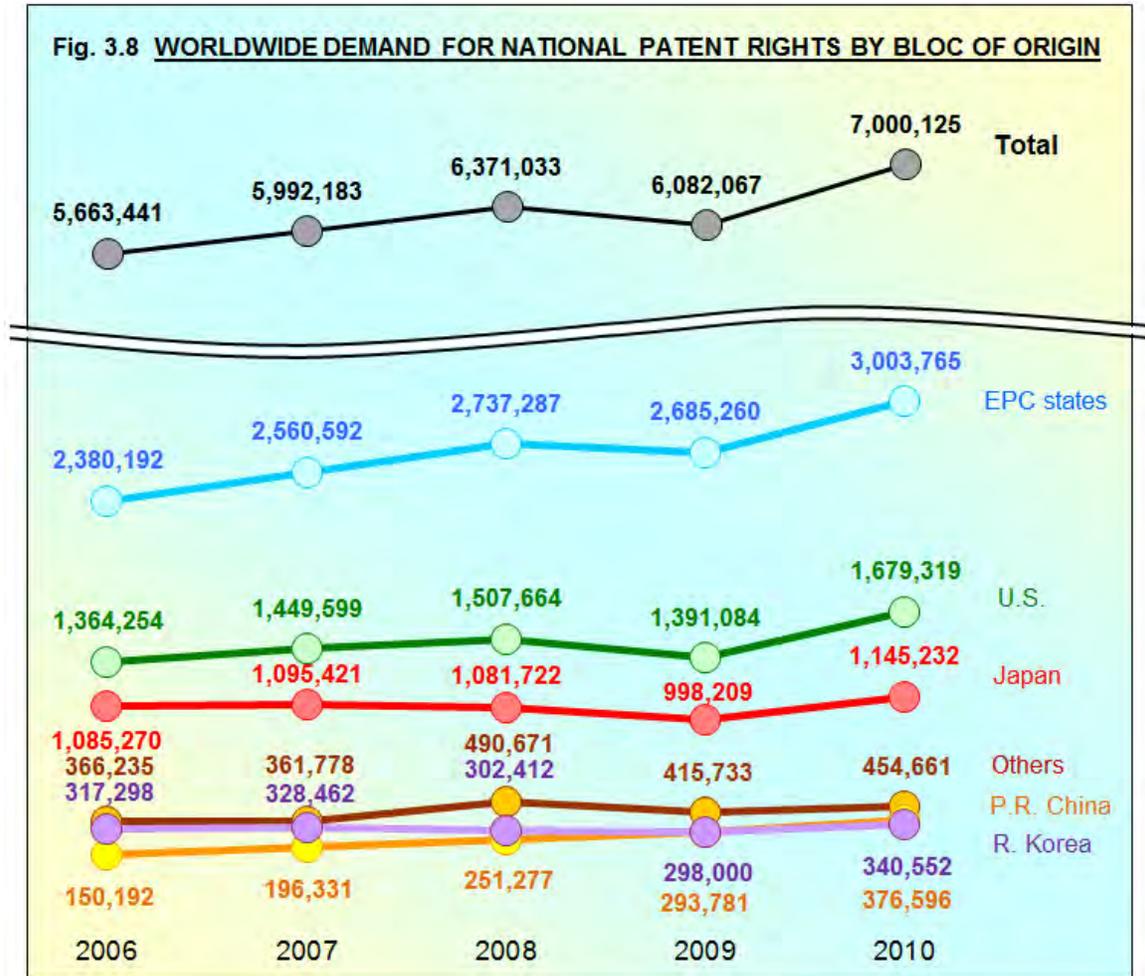
Fig. 3.7 shows the development of demand for national patents rights broken down by filing procedures.²⁶



Despite a decline in numbers from 2008 to 2009, the overall growth from 2006 to 2010 shows the effect of the centralized procedures (regional and international) to help users of the system to expand their patent protection without needing to make separate applications to every country of interest.

²⁶ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

Fig. 3.8 shows the trend for the demand of national patent rights by blocs of origin (residence of first-named applicants or inventors) and is based on the same data as Fig. 3.7.²⁷



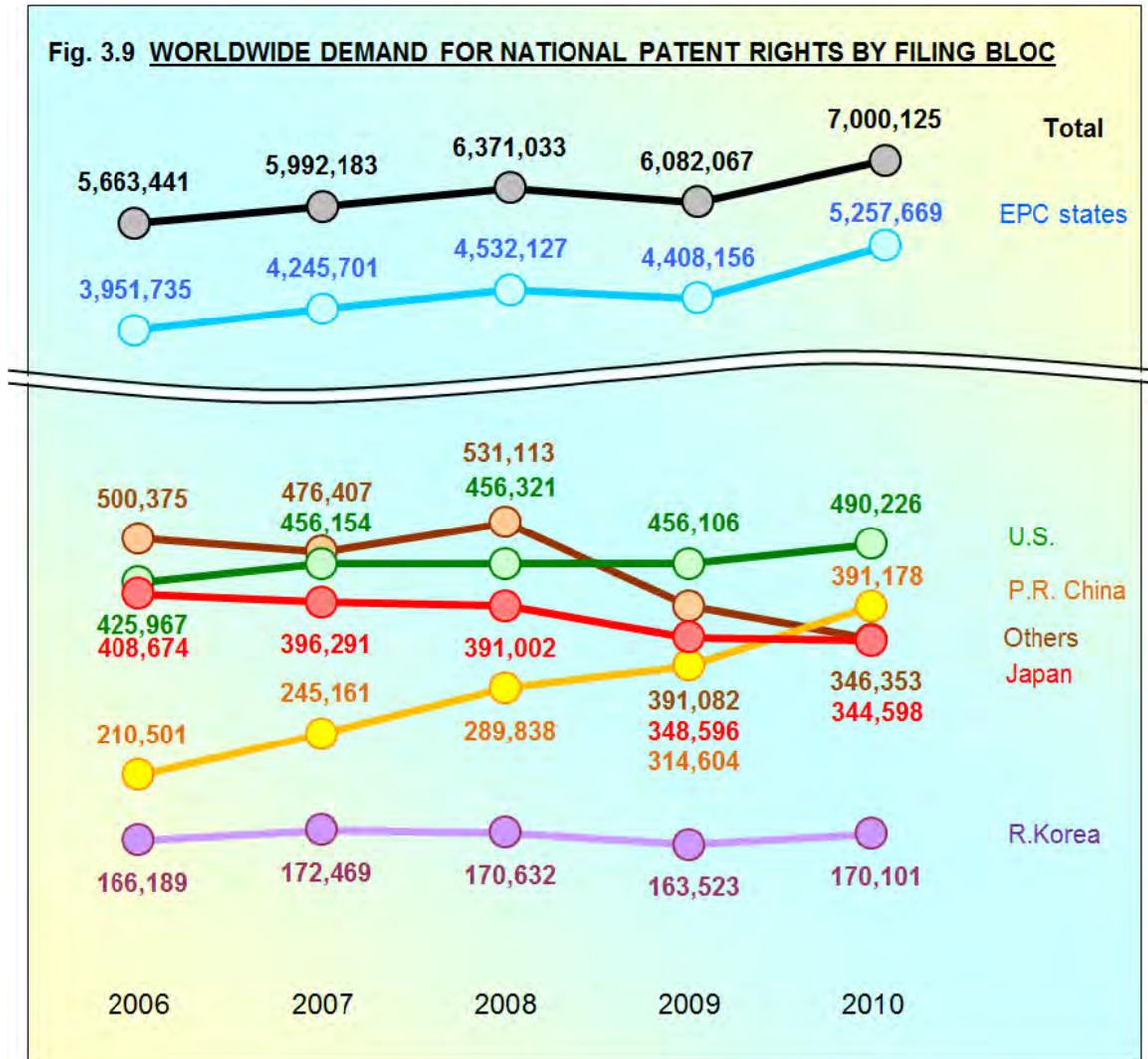
From 2009 to 2010 worldwide demand for national patent rights increased by 15 percent. During this time, demand from all blocs increased. The total worldwide demand for national patent rights increased at a compound growth rate of 5.4 percent per year from 2006 to 2010.

The large share of the EPC states²⁸ reflects, among other factors, the intensive use of the international and regional systems there.

²⁷ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

²⁸ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states.

Fig. 3.9 shows the distribution of the demand for national patent rights according to the filing or targeted blocs and is related to the data in Fig. 3.7 and Fig. 3.8.²⁹



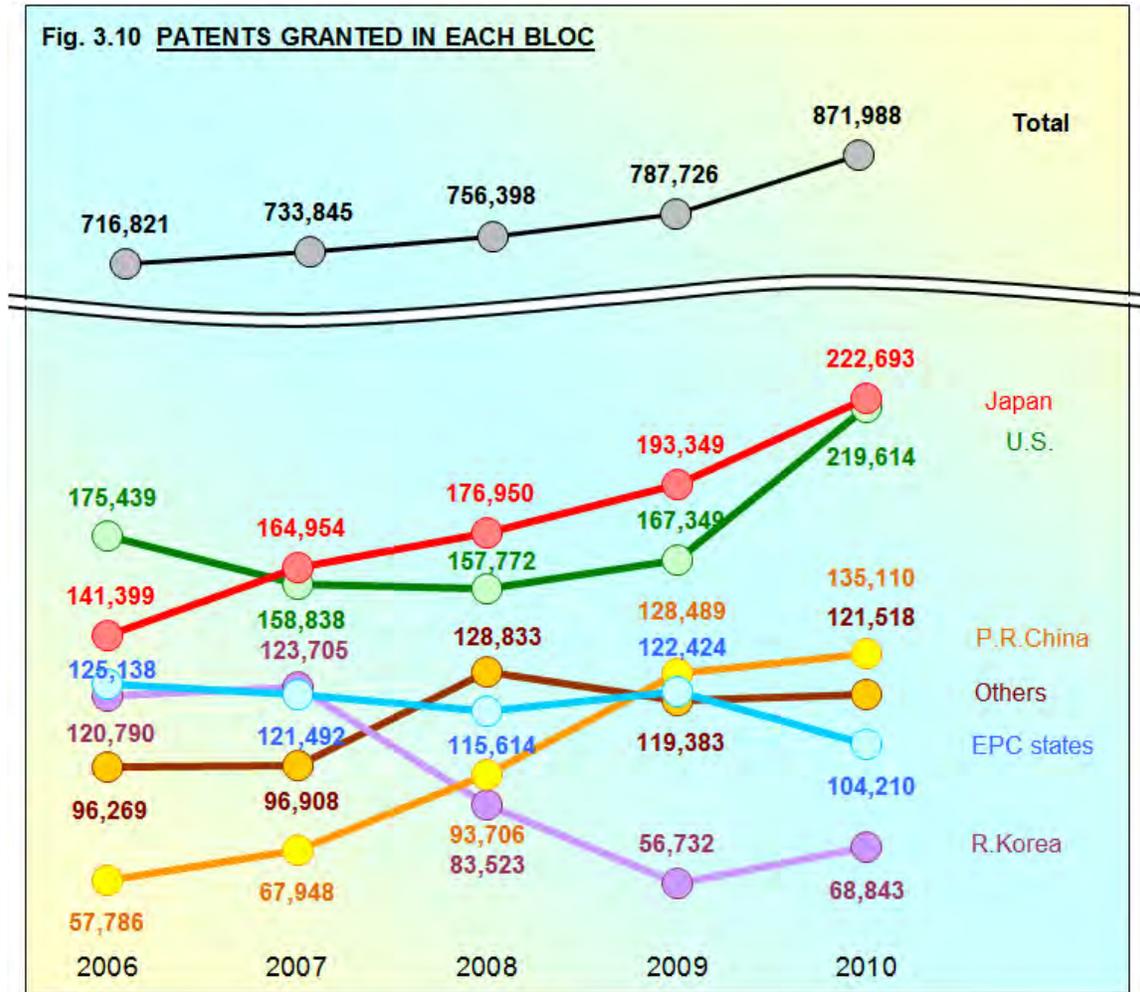
This chart demonstrates the influence of regional patent systems on global demand for patents. In 2010, the demand for national patent rights increased in the EPC states, P.R. China, R. Korea, and the U.S., while decreasing in Japan. P.R. China and the EPC states had the largest increases at 24 percent and 19 percent respectively.

²⁹ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

PATENT GRANTS

The development of the use of patent systems is shown in this section in terms of grants.

Fig. 3.10 displays the cumulative numbers of patents granted in each of blocs.³⁰



The total number of patents granted in the world increased by 11 percent in 2010. The number of grants for P.R. China, Japan, R. Korea, and the U.S. increased, while grants for the EPC states decreased. Patent grants are counted once only (although EPC states counts include grants both by the EPO and the EPC states national offices).

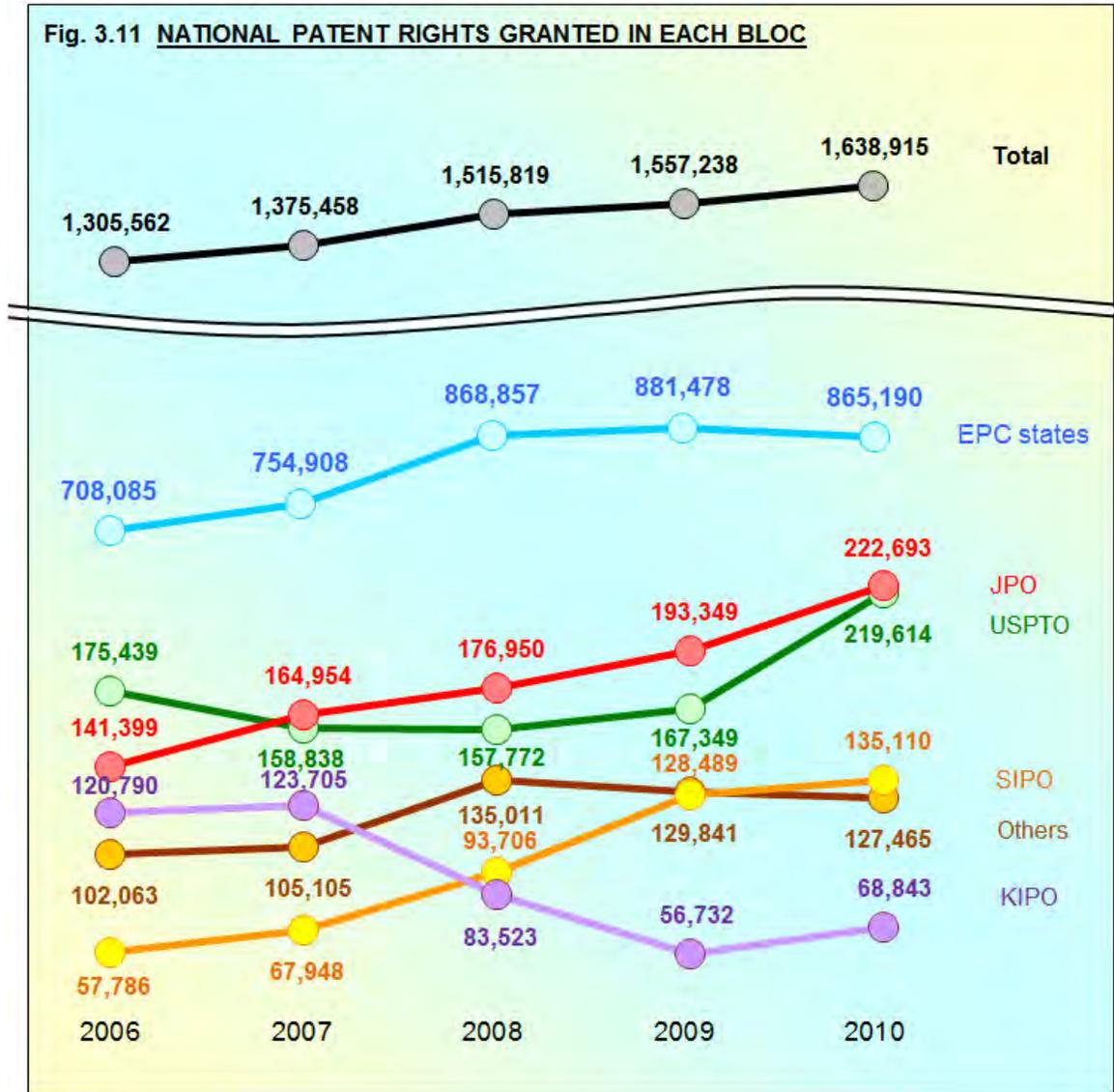
The data for Others should be compared between years with caution, since more countries reported figures in 2009, in particular some countries with large numbers of grants. However superimposed on this, there have been genuine increases in the last few years.

³⁰ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

As currently implemented, note that each grant action by a regional office (e.g. the EPO) can lead to as many national patents as the number of member states that have been designated.³¹ This has an effect only in EPC states and Others, as shown in the following Fig. 3.11.

³¹ National patents can also be created in other states that have extension agreements with the EPC or otherwise recognize the validity of EPO patents.

Fig. 3.11 illustrates the development of the validated national grants resulting from the decisions reported in Fig. 3.10.³² Direct national grants are counted once only, but counts for regional Office grants are replicated over the numbers of countries for which the grant provides valid registrations. This gives a representation in terms of national patent rights.



The overall number of national patent rights granted increased by 26 percent over the five-year period to more than 1.6 million patent rights granted in 2010.

The fact that the EPC states bloc is made up of many countries, with an option for a centralized grant procedure at the EPO, explains why the number of patent rights granted there in Fig. 3.11 is much larger than the number of grant actions shown in Fig. 3.10.

³² A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

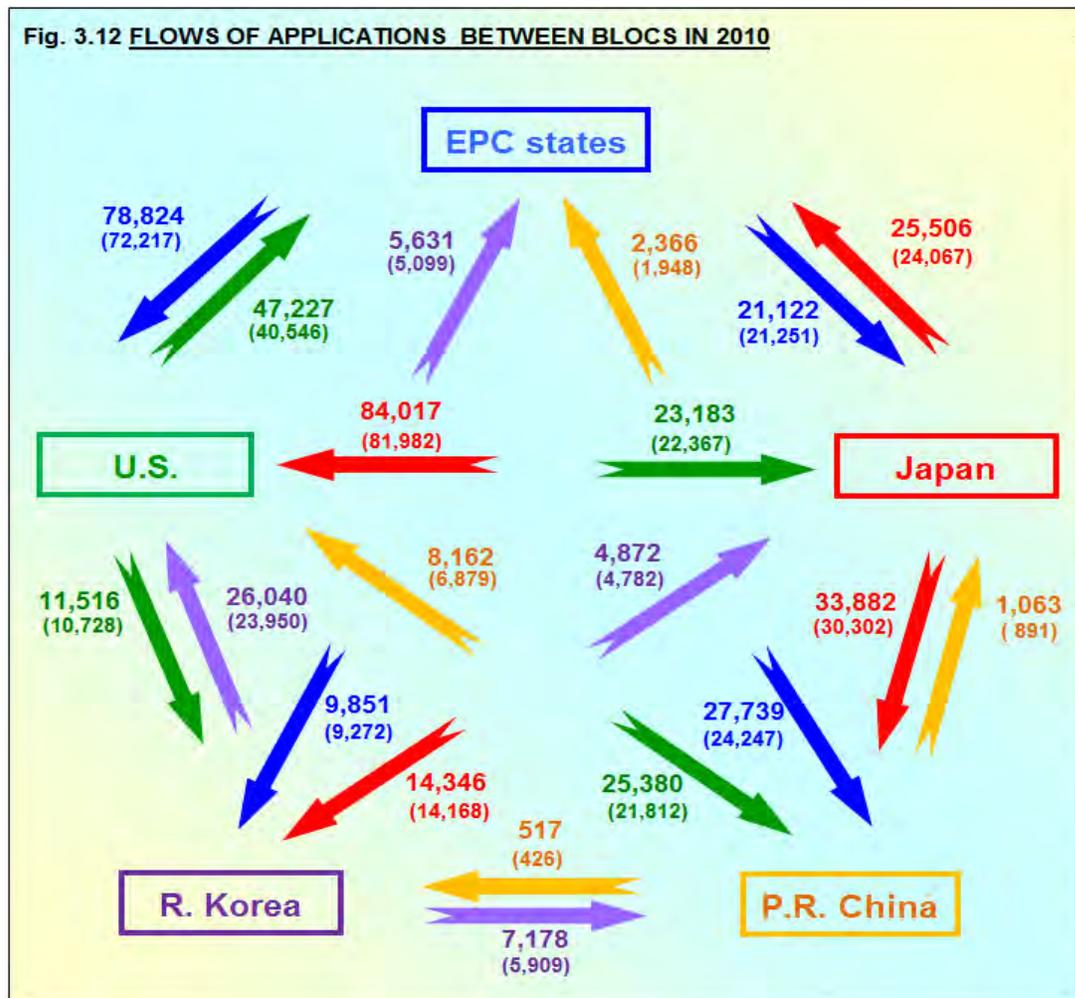
INTERBLOC ACTIVITY

In this section, the flows between the different blocs and especially the IP5 Blocs are analysed first in terms of applications and then in terms of patent families.

FLOWS OF APPLICATIONS

Fig. 3.12 shows the flows, between IP5 Blocs by origin (residence of first-named applications or inventors), of distinct patent applications entering a grant procedure (as in Fig. 3.5) in 2010, with 2009 figures given in parentheses.³³

Direct applications to the Offices are counted at the date of filing. PCT applications are counted at the moment they enter the national or regional phase. Direct national and direct regional filings are counted once only. PCT filings are replicated over the numbers of national/regional procedures that are started.



³³ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

As a general pattern, applicants worldwide filed many more applications in the U.S. than in any of the other IP5 Blocs. U.S. applicants applied more in the EPC states³⁴ than in any of the other regions.

In 2010, flows between all the blocs increased with the exception of the flow from the EPC states to Japan which declined slightly.

³⁴ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states.

PATENT FAMILIES

A patent family is a group of patent filings that claim the priority of a single first filing.³⁵

The information in this section on flows between blocs of patent families was obtained from the DOCument DataBase (DOCDB)³⁶ of worldwide patent publications. The statistics are based on references to priorities given in published applications. Where no reference to a priority appears in an application, it is considered to be a first filing. Otherwise it is a subsequent filing. This differs to some extent from other statistics in this chapter that are based on counts of filed patent applications provided by individual Patent offices, where domestic applications are used as a proxy for first filings. Here, the number of applications is counted based on the bloc of origin for which priority was claimed. Due to the delay in publication (relative to the time of filing), patent families counts can only be reported with any degree of accuracy after several years have passed.

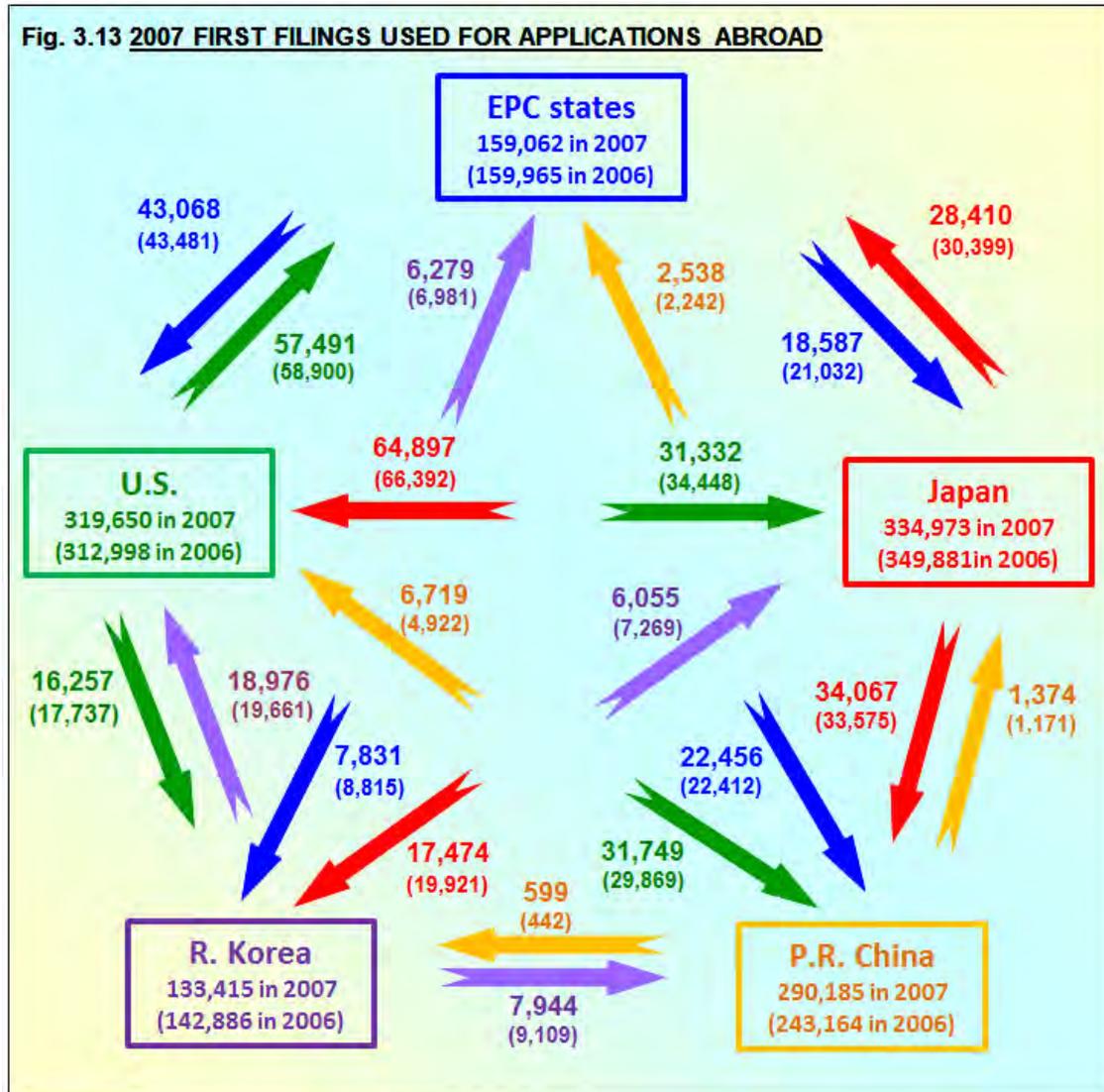
Fig. 3.13 shows the flows of patent families from first filings to subsequent filings among the IP5³⁷, with application counts based on the bloc within which the claimed priority was filed.³⁸ The number given in this box for each bloc is the total number of first filings in 2007. The flow figures between blocs of origin and target blocs indicate the numbers of 2007 first filings from the bloc of origin that led to subsequent filings in the target bloc. The comparable figures for 2006 are given in parentheses.

³⁵ For a further discussion of patent families, see the term definitions in Annex 2.

³⁶ DOCDB is the EPO master documentation database with worldwide coverage containing bibliographic data, abstracts and citations (but no full text).

³⁷ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states.

³⁸ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.



The following Table 3 shows details of flows of patent families between blocs for the priority years 2006 and 2007. Historical tables for the years from 1995 to 2007 can be found in the statistical data files attached to the web based version of this report.

Table 3: NUMBERS OF PATENT FAMILIES

NUMBERS OF PATENT FAMILIES												
Source: EPO DOCDB database												
Year of priority filings: 2006												
Bloc of origin from which priority is claimed	First Filings in Bloc of Origin			Flows to Subsequent Filings								IP5 Blocs Patent Families from bloc of origin (EPC, Japan, R. Korea, P.R. China, U.S.)
	Any other Blocs	Any Other Triateral Bloc	Any other Four Bloc	Any other IP5 Bloc	EPC states	Japan	R. Korea	P.R. China	U.S.	Other countries		
EPC states	49,802 (31.1%)	45,650 (28.5%)	45,989 (28.7%)	48,019 (30.0%)		21,033 (13.1%)	8,796 (5.5%)	22,412 (14.0%)	44,109 (27.6%)	18,981 (11.9%)	5,866 (3.7%)	
Japan	74,765 (46.4%)	68,432 (42.1%)	71,335 (43.8%)	73,643 (45.4%)	30,350 (18.7%)		20,074 (12.0%)	33,575 (20.4%)	66,586 (40.7%)	14,259 (8.8%)	8,591 (5.2%)	
R. Korea	21,666 (13.3%)	20,735 (12.7%)	20,735 (12.7%)	21,611 (13.3%)	6,881 (4.2%)	7,266 (4.5%)		9,109 (5.7%)	19,697 (12.2%)	2,780 (1.7%)	2,630 (1.6%)	
P.R. China	243,164 (150.4%)	5,800 (3.6%)	5,833 (3.6%)	5,833 (3.6%)	2,242 (1.4%)	442 (0.3%)	442 (0.3%)		4,922 (3.0%)	661 (0.4%)	233 (0.1%)	
U.S.	312,398 (193.8%)	77,103 (47.7%)	62,608 (38.4%)	67,590 (41.5%)	58,812 (36.2%)	34,437 (21.2%)	17,688 (10.8%)	29,869 (18.5%)	45,252 (28.0%)	9,613 (6.0%)	9,613 (6.0%)	
IP5 blocs subtotal	1,208,894 (743.0%)	203,225 (124.5%)	207,547 (126.5%)	216,596 (131.0%)	98,425 (60.6%)	53,907 (32.9%)	47,000 (28.7%)	94,965 (58.3%)	135,304 (82.0%)	81,933 (50.7%)	26,933 (16.5%)	
Others	114,939 (70.2%)	15,301 (9.5%)	15,301 (9.5%)	15,473 (9.6%)	4,273 (2.6%)	2,765 (1.7%)	1,002 (0.6%)	1,607 (1.0%)	13,945 (8.7%)	325 (0.2%)	325 (0.2%)	
Global total	1,323,833 (813.2%)	218,526 (134.7%)	222,848 (136.0%)	232,069 (141.6%)	102,698 (62.2%)	66,672 (40.5%)	48,002 (29.3%)	96,572 (58.8%)	149,249 (91.1%)	81,933 (50.7%)	27,258 (16.7%)	

Year of priority filings: 2007												
Bloc of origin from which priority is claimed	First Filings in Bloc of Origin			Flows to Subsequent Filings								IP5 Blocs Patent Families from bloc of origin (EPC, Japan, R. Korea, P.R. China, U.S.)
	Any other Blocs	Any Other Triateral Bloc	Any other Four Bloc	Any other IP5 Bloc	EPC states	Japan	R. Korea	P.R. China	U.S.	Other countries		
EPC states	49,157 (30.9%)	44,370 (27.9%)	44,683 (28.1%)	47,132 (29.6%)		18,697 (11.7%)	7,831 (4.9%)	22,456 (14.1%)	43,068 (27.1%)	18,478 (11.6%)	5,333 (3.4%)	
Japan	74,277 (46.2%)	66,889 (40.5%)	69,909 (42.8%)	72,699 (44.7%)	28,410 (17.4%)		17,474 (10.7%)	34,067 (20.9%)	64,897 (39.9%)	16,285 (10.1%)	7,242 (4.5%)	
R. Korea	21,105 (12.7%)	20,027 (12.1%)	20,027 (12.1%)	20,914 (12.7%)	6,279 (3.8%)	6,055 (3.7%)		7,944 (4.9%)	18,976 (11.6%)	2,969 (1.8%)	2,164 (1.3%)	
P.R. China	290,185 (177.8%)	7,772 (4.8%)	7,595 (4.7%)	7,595 (4.7%)	2,538 (1.5%)	1,374 (0.8%)	599 (0.4%)		6,719 (4.1%)	804 (0.5%)	333 (0.2%)	
U.S.	319,650 (197.4%)	77,230 (47.2%)	61,598 (37.9%)	67,029 (41.3%)	57,491 (34.5%)	31,332 (19.3%)	16,257 (10.1%)	31,749 (19.9%)	46,276 (28.3%)	9,318 (5.8%)	9,318 (5.8%)	
IP5 blocs subtotal	1,237,285 (760.3%)	200,439 (123.0%)	205,006 (125.0%)	215,359 (133.6%)	94,718 (57.7%)	57,348 (35.1%)	42,161 (25.9%)	96,216 (58.9%)	133,660 (81.3%)	83,812 (51.4%)	24,390 (15.0%)	
Others	116,929 (71.9%)	15,072 (9.3%)	15,129 (9.3%)	15,319 (9.4%)	4,041 (2.5%)	2,401 (1.5%)	882 (0.5%)	1,620 (1.0%)	13,858 (8.5%)	314 (0.2%)	314 (0.2%)	
Global total	1,354,214 (838.2%)	215,511 (131.9%)	220,135 (135.3%)	230,688 (141.0%)	98,759 (60.2%)	59,749 (36.6%)	43,043 (26.4%)	97,836 (59.3%)	147,518 (90.3%)	83,812 (51.4%)	24,704 (15.2%)	

Percentages are the counts expressed as proportions of the numbers of First Filings in the countries/blocs of origin.

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Chapter 3

From information in Table 3, out of all first filings in the IP5 Blocs in 2007 (1,237,285), only 17 percent formed patent families that included at least one of the remaining IP5 Blocs (215,369). Proceeding to a higher degree of selectivity, only 2.2 percent of all first filings in the IP5 Blocs in 2006 formed “IP5 Blocs patent families”, where activities of first and/or subsequent filings were made to all the IP5 Blocs.

The proportions of IP5 Blocs patent families differed considerably according to the bloc of origin of the priority filings (EPC states 3.7 percent, U.S. 3.1 percent, Japan 2.5 percent, R. Korea 1.8 percent, P.R. China 0.1 percent and for Others 0.3 percent).

The first filings and flows between the IP5 Blocs in Fig. 3.13 and Table 3 are fairly accurate up to the year 2007. The numbers for IP5 Blocs patent families after 2006 may not yet be complete, because more time is needed to gather all evidence of subsequent filing activity from first filings in later years.

Fig. 3.14 presents a separate diagram for each IP5 Bloc that displays the percentages of first filings in that Bloc that led to subsequent filings in each of the other IP5 Blocs. The diagrams include graphical displays of 2006 patent family data that also are presented in Table 3. Four circles are presented in each diagram with each circle representing the percentage of subsequent filings in one of the other IP5 Blocs. In addition to percentages, the circles also may be viewed as graphically representative of the relative proportions of subsequent filings in the other IP5 Blocs. Areas where the circles overlap correspond to subsequent filings in more than one other IP5 Bloc.

Each diagram includes a label that lists the name of the profiled IP5 Bloc and the total number of first filings received there. Recall that, while the IP5 Blocs correspond to the same geographical areas that are covered by the IP5 Offices, in the case of the EPC states the activities at national offices are included as well as the EPO.

Each profiled IP5 Bloc's graphical display presents the name of the other four IP5 Blocs around the periphery with the corresponding percentage shares of the first filings from the profiled Bloc that were subsequently filed in those other Blocs. The size of each circle is representative of both the percentage and number of patent families subsequently filed in the corresponding color-coded bloc. Overlapping areas are representative of both the percentage and number of patent families subsequently filed in two or more IP Blocs.

For instance, patent families from first filings in EPC member states that were subsequently filed in the P.R. China and the U.S. blocs are indicated in the graphical display by the area where the green and yellow circles overlap. The corresponding percentage is 12 percent, as shown next to the green and yellow dots that appear lower down in the figure, which are explained further below. The non-overlapping areas of the graphical displays are representative of the percentage or number of patent families that were not subsequently filed in any of the other IP5 Blocs. For instance, for first filings in EPC states, the small non-overlapping area of the P.R. China circle indicates that only a small percentage and number of the patent families from EPC states were filed in P.R. China without also being filed in at least one of the other IP5 blocs, as well.

The percentages next to the color code combinations under each graphical display show subsidiary percentages of subsequent filings that flowed to more than one other IP5 Bloc. For example, the 4 way combination, "Japan, R. Korea, P.R. China, U.S." under "First Filings in EPC 159,965" is 3.7 percent, corresponding to the proportion of IP5 Blocs Patent families with first filings in the EPC and subsequent filings in all of the other four IP5 blocs, as well. This proportion also appears in Table 3.

Fig. 3.14 2006 PROPORTIONS OF PATENT FAMILIES INVOLVING SEVERAL IP5 BLOCS

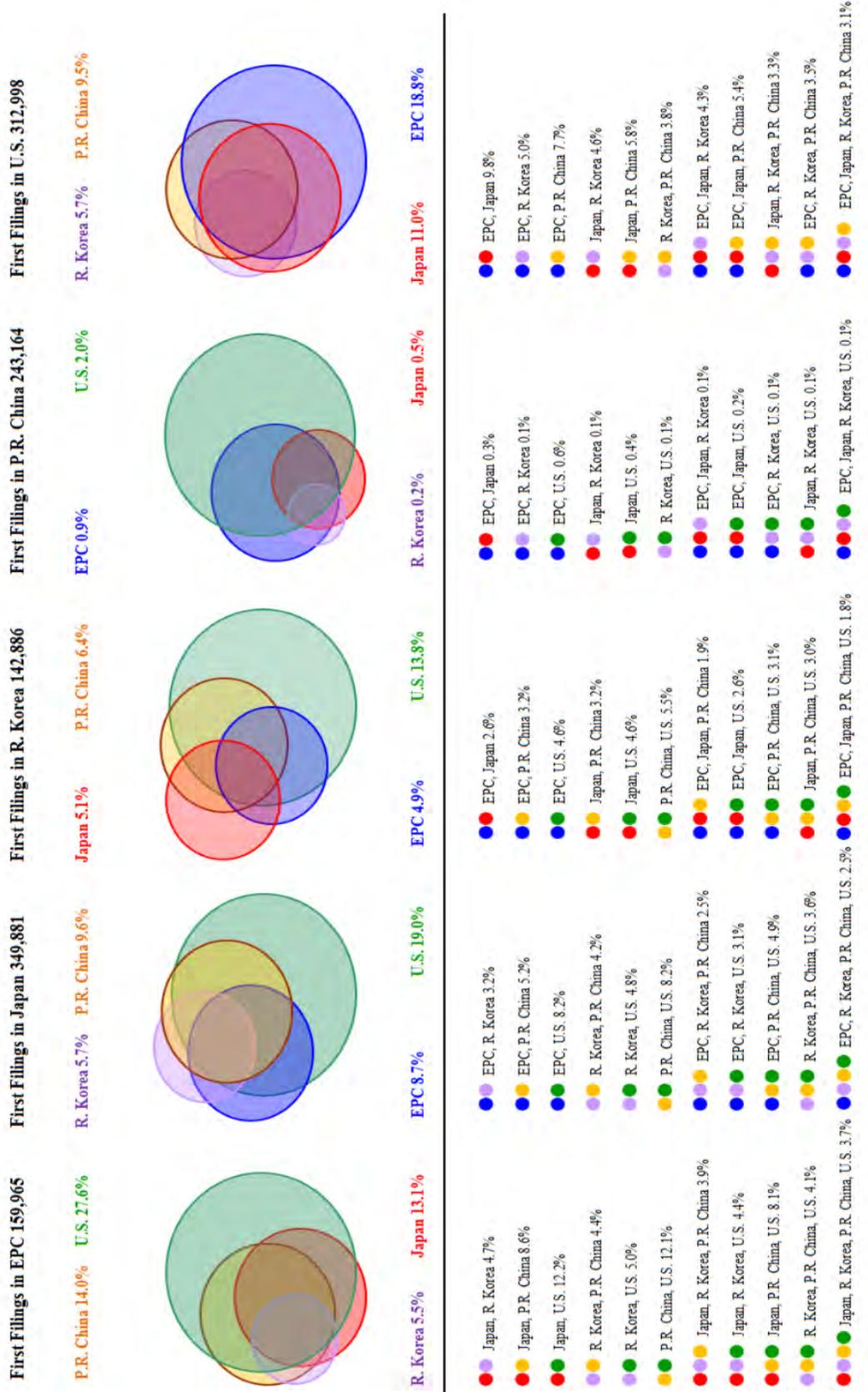


Figure 3.14 and Table 3 indicate that the U.S. market may be considered as the most important foreign market for the other IP5 Blocs since, for each of those Blocs, subsequent applications in the U.S. represent the highest percentages among target Blocs. The percentages of subsequent applications filed in the U.S. following 2006 first filings in the EPC member states, Japan, R. Korea, and P.R. China are 27.6 percent, 19.0 percent, 13.8 percent, and 2.0 percent, respectively.

For first filings in the EPC member states, the largest percentage of subsequent filings is directed to the U.S. (27.6 percent). In general, first filings in the EPC member states tend to result in a higher percentage of subsequent filings overseas, as compared to the first filings in other IP5 Blocs as seen in Fig. 3.14 and column 6 of Table 3.

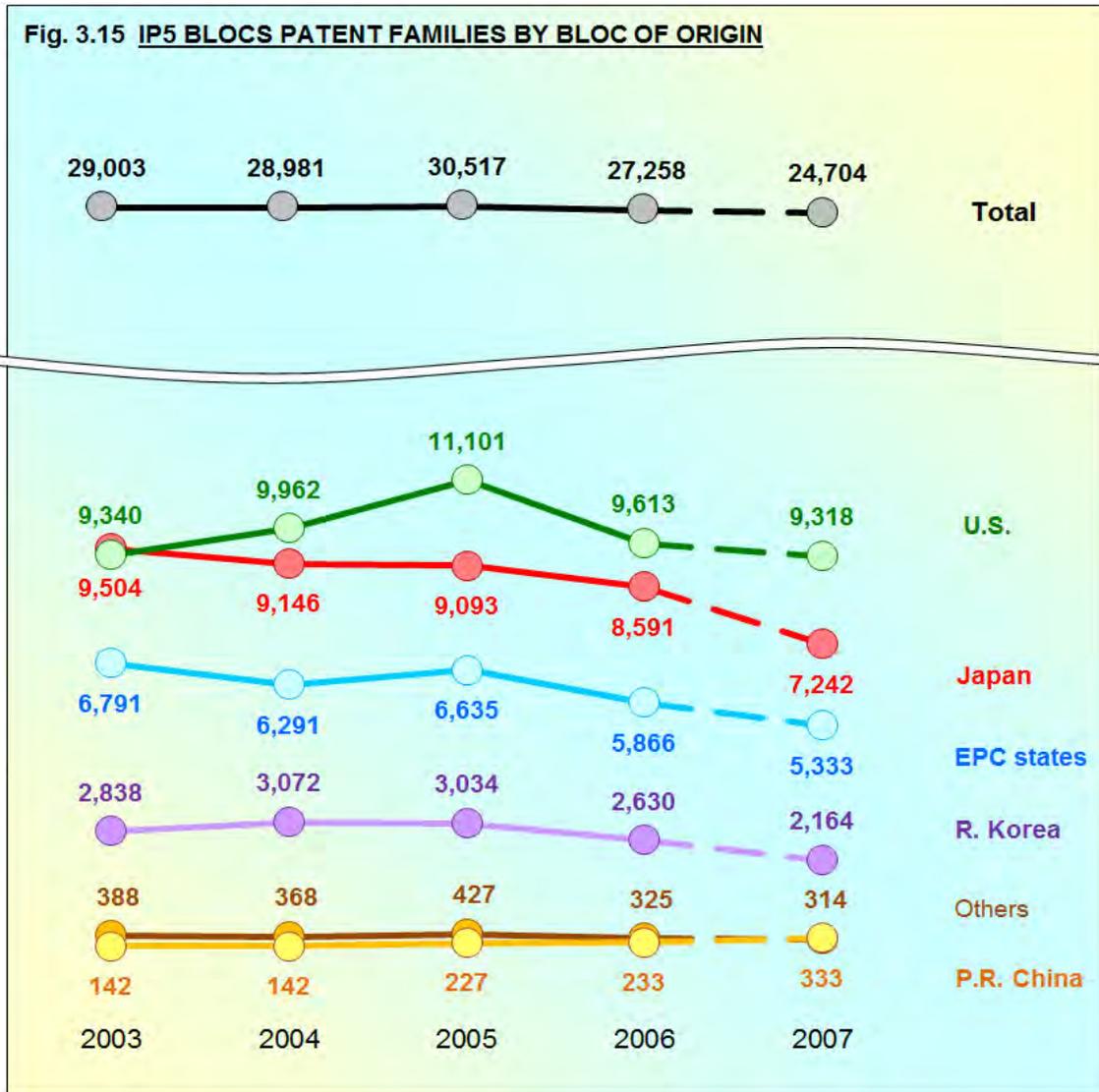
For the first filings in Japan, the largest percentage of subsequent applications is directed to the U.S. (19.0 percent). In addition, the percentage of subsequent applications directed to P.R. China is growing, as is demonstrated by comparing 2006 and 2007 data in Table 3, with P.R. China geographically close to Japan and growing in market importance.

For the first filings in R. Korea, the percentage of subsequent applications filed in the U.S. (13.8 percent) is the largest, followed by P.R. China (6.4 percent), which, like Japan, is in close proximity geographically. In addition, the percentage of subsequent applications filed in the EPC member states is 4.9 percent. This last percentage is close to the percentage of subsequent applications filed in both the EPC member states and the U.S. together (4.6 percent), indicating that most of the subsequent applications filed in the EPC member states have been also filed in the U.S.

For the first filings in P.R. China, the percentage of subsequent applications that were filed in both the EPC member states and Japan is about 0.3 percent. The percentage of subsequent applications that were filed in the EPC member states, Japan, and the U.S. is about 0.2 percent, indicating that many of the subsequent applications filed in both the EPC and Japan have also been filed in the U.S. Despite the low proportions of first filings in P.R. China that led to subsequent applications anywhere else, rapidly growing numbers of first filings have resulted in continued growth of the absolute numbers of patent families flowing out, as can be seen by comparing the 2006 and 2007 data displayed in Table 3.

Among the first filings in the U.S., the percentage of subsequent applications filed is highest in the EPC member states (18.8 percent). The percentage of subsequent applications filed in Japan (11.0 percent) is the next highest, with P.R. China at 9.5 percent and R. Korea at 5.7 percent.

Fig. 3.15 shows the development over time of IP5 Blocs patent families by bloc of origin (residence of first-named applicants or inventors) of the priority forming filings.³⁹



The total number of IP5 Blocs patent families in 2006 was 27,258, of which 35 percent were from the U.S., 32 percent were from Japan, 22 percent were from the EPC states, 10 percent were from R. Korea, 1 percent were from P.R. China, and 1 percent were from Others.

In the statistical annex to this report, that is available for the web based edition, similar data (back to 1995) are also given for Trilateral patent families and Four blocs patent families. This allows for comparison of IP5 Blocs patent families with statistics given in earlier editions of this report.

³⁹ A guide is located at the beginning of Chapter 3 that provides a further description of the contents of the displayed figure.

Chapter 4

PATENT ACTIVITY AT THE IP5 OFFICES

This chapter presents trends in patent application filings and grants at the IP5 Offices. These statistics are based on data from the IP5 Offices and are generally available on a more up-to-date basis than those statistics presented by Blocs in Chapter 3. Most of the information that appears here includes data from both 2010 and 2011. Regarding Europe, statistics are for the EPO only. Whereas the EPO is indicated from the viewpoint of an Office, the EPC states are still indicated as a bloc of origin.

The activities at the IP5 Offices are demonstrated by counts of the patent applications that were filed. The statistics give insight into the work that is requested and carried out at the IP5 Offices. For patent applications, the representations are analogous to those appearing in Chapter 3 (Figs. 3.5, 3.6 and 3.12) which show the numbers of **requests for patents** as they entered a grant procedure.⁴⁰ Direct applications to the Offices are counted at the date of filing. PCT applications are counted at the moment they enter the national or regional phase. Direct national and direct regional filings are counted once only. PCT national/regional phase filings are replicated over the numbers of procedures that are started.

The demand at the EPO is given in terms of applications rather than in terms of designations. Also, it should be noted that part of the demand for patents in the EPC states is processed through the national offices and is not considered in this chapter.

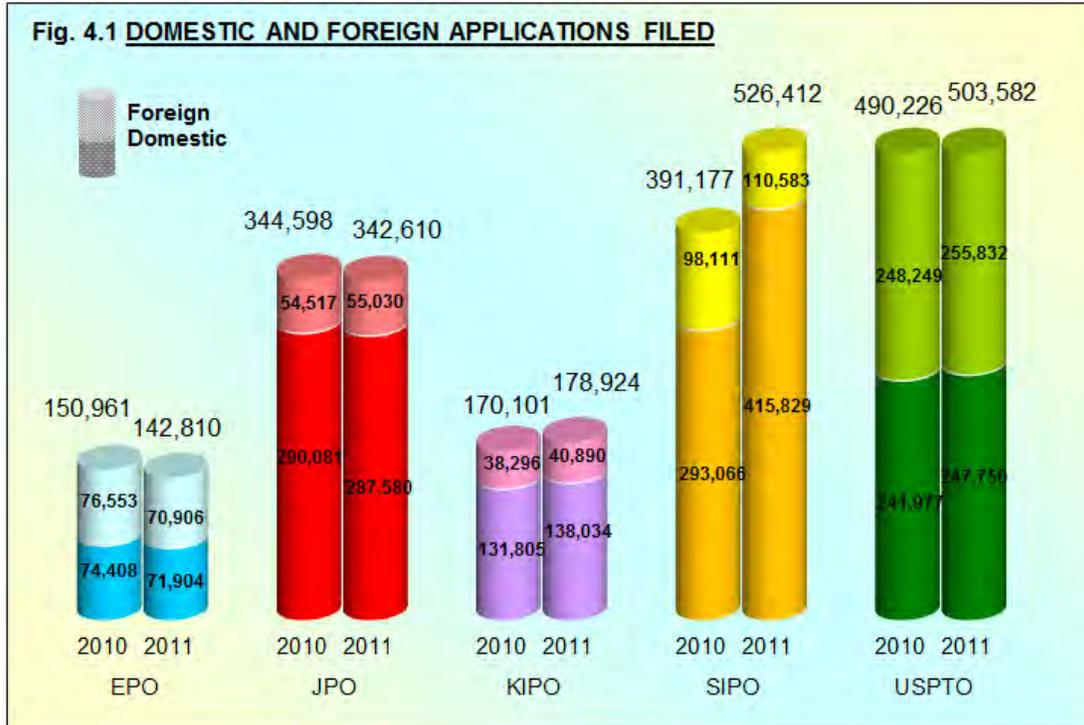
For granted patents, the statistics combine information by Office and bloc of origin, displaying comparisons by year of grant. The representations here are similar to those for Fig. 3.10, where granted patents are counted once only, except that, for EPC states, only the EPO is considered as the granting authority. Hereinafter "patents granted" will correspond to the number of grant actions (issuances or publications) by the IP5 Offices.

For information about specific terminology and associated definitions used in Chapter 4, please refer to Annex 2.

⁴⁰ See guide at beginning of Chapter 3.

PATENT APPLICATIONS FILED

Fig. 4.1 shows the number of domestic and foreign origin (residence of first-named applicants or inventors) patent applications filed with each of the IP5 Offices during the two most recent years. The EPO is indicated from the viewpoint of an Office with the EPO domestic applications corresponding to those filed by residents of EPC states.

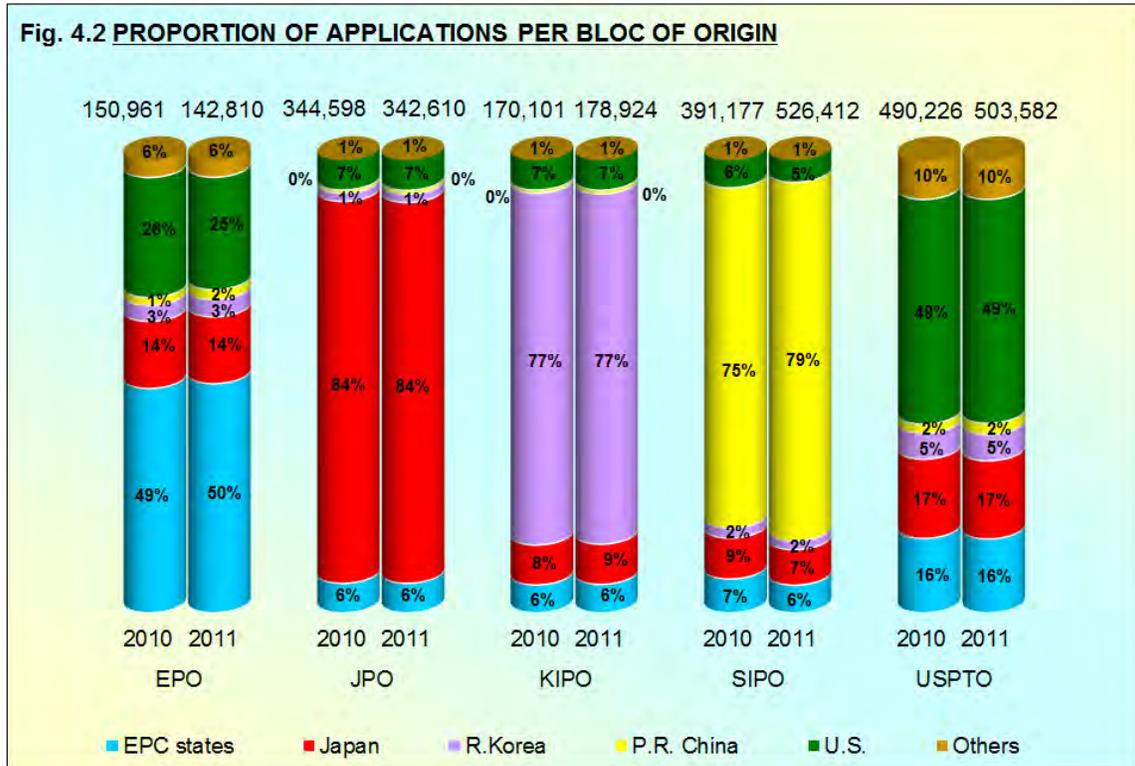


In 2011, a total of about 1,694,000 patent applications were filed at the IP5 Offices, an increase of 10 percent from 2010 (1,547,000).

There were increases in patent applications at the SIPO, the KIPO and the USPTO of 35 percent, 5 percent, and 3 percent in 2011, while the EPO and the JPO had decreases of 5 percent and 1 percent. The decrease at the EPO can largely be explained by the one-off effect of a rule adjustment that led to a number of additional divisional filings made in 2010.

At the KIPO, the SIPO, and the USPTO, both domestic and foreign applications increased in 2011. At the JPO, domestic applications declined while foreign applications increased. At the EPO, both domestic and foreign applications decreased. The SIPO had a particularly large increase in domestic filings of 42 percent.

Fig. 4.2 shows the respective shares of patent application filings by origin (residence of first-named applicants or inventors) relative to total filings at each Office for 2010 and 2011.



Comparison of the numbers of applications across the IP5 Offices⁴¹ should only be made with caution. For example, the numbers of claims given in applications are significantly different among the IP5 Offices. On average, in 2011, an application filed at the EPO contained 13.9 claims (13.4 in 2010), one filed at the JPO contained 9.7 claims (9.6 in 2010), one filed at the KIPO contained 10.6 claims (10.7 in 2010), one filed at the SIPO contained 8.4 claims (9.2 in 2010), while one filed at the USPTO had 18.3 claims (18.5 in 2010). These numbers declined slightly in all the IP5 Offices from 2010 to 2011, with the reduction at the SIPO being slightly greater than for the other IP5 Offices.

The shares of patent application filings by bloc of origin are generally consistent for 2010 and 2011 for each Office.

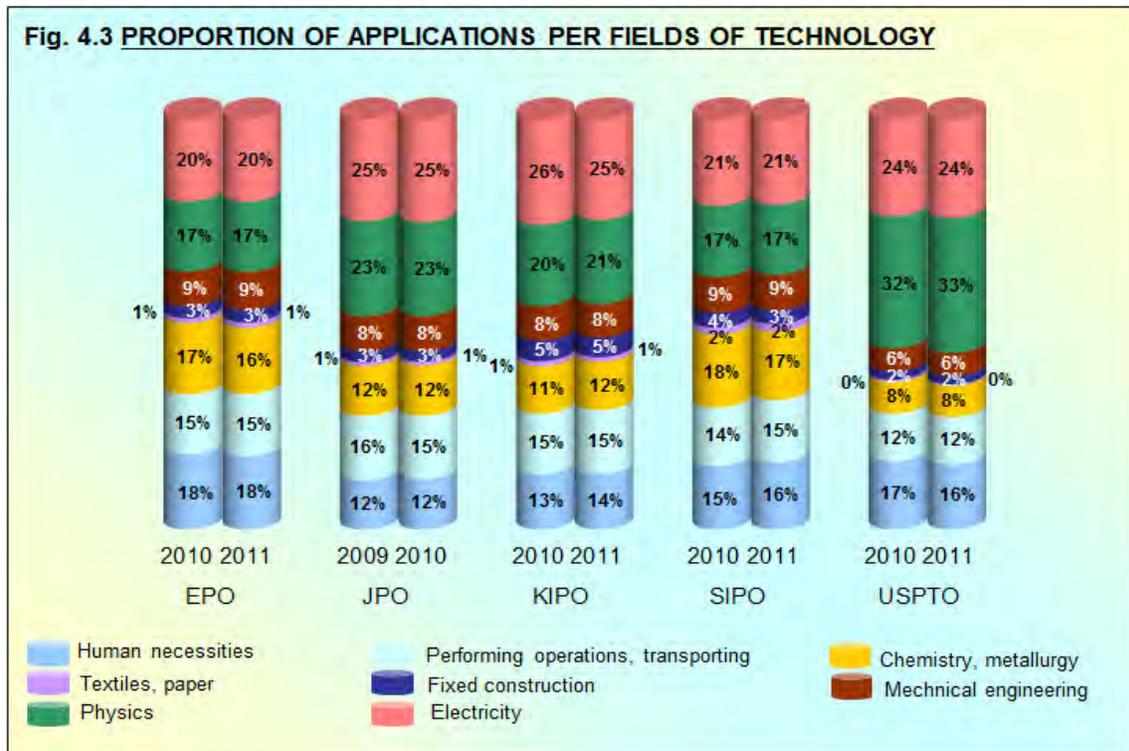
⁴¹ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states. For EPC states, only the EPO is considered as the granting authority in this chapter.

FIELDS OF TECHNOLOGY

Patents are classified by the IP5 Offices according to the IPC. This provides for a hierarchical system of language independent symbols for the classification of patents and utility models according to the different areas of technology to which they pertain. Fig. 4.3 shows the distribution of applications according to the main sections of the IPC.⁴²

The classification takes place at a different stage of the procedure in the Offices. Data are shown for the EPO, the KIPO, the SIPO, and the USPTO for the filing years 2010 and 2011⁴³, while for the JPO the breakdown is given for the filing years 2009 and 2010⁴⁴.

Fig. 4.3 indicates the share of applications by fields of technology at each Office. The shares are determined for all applications for which a classification is available.



More than half of the filings at the USPTO were concentrated in physics and electricity technologies. These same technologies also were important at the other offices where they generally show a more balanced technology distribution. The proportions of technologies filed at each office have been fairly consistent over time.

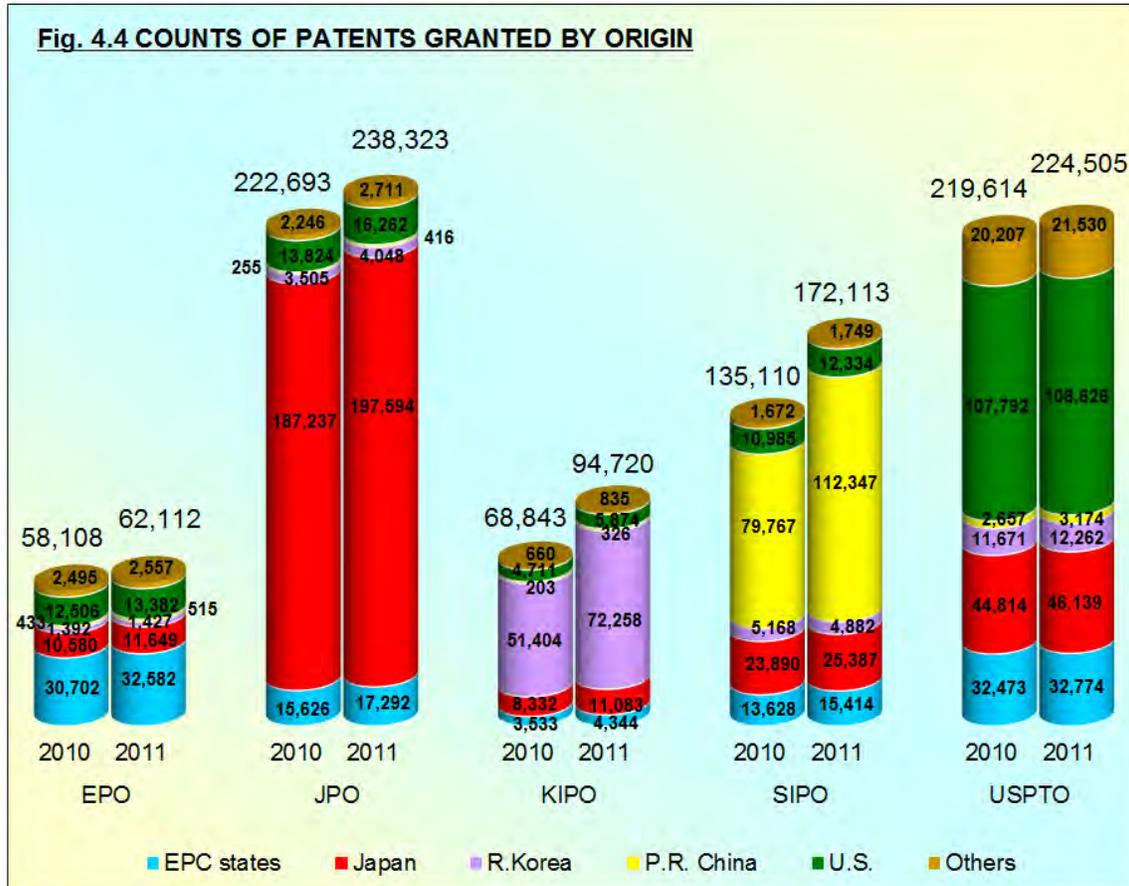
⁴² <http://www.int/classifications/ipc/en/>

⁴³ USPTO applications are classified according to the U.S. Patent Classification system. The breakdown according to the IPC has been determined by means of a general concordance between both classifications. The connection between the two systems is not one-to-one in all cases. Therefore, there may be some technical differences between the nature of the USPTO's IPC data and that from the EPO, the JPO, the KIPO and the SIPO.

⁴⁴ JPO data for 2010 are the most recent available figures because the IPC assignment is completed just before the publication of the Unexamined Patent Application Gazette (18 months after the first filing).

PATENT GRANTS

Fig. 4.4 shows the numbers of patents granted by the IP5 Offices, according to the bloc of origin (residence of first-named owners, applicants or inventors)⁴⁵.

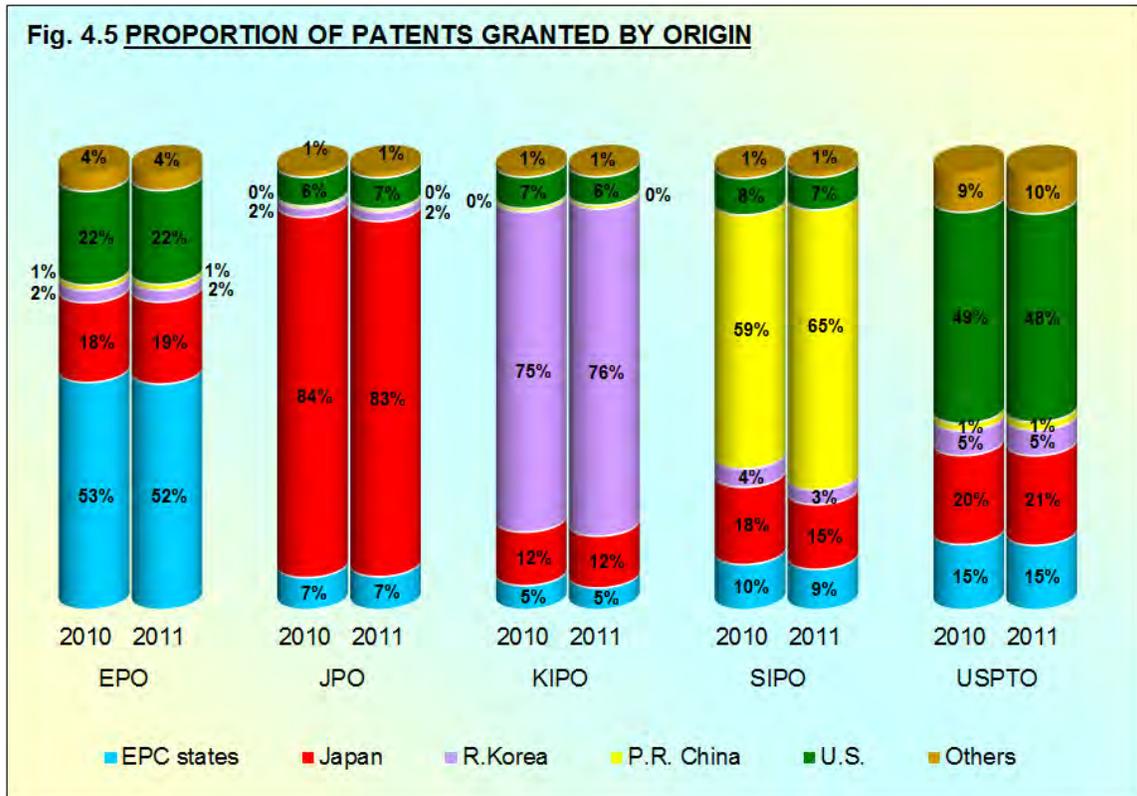


Together the IP5 Offices granted a total of 791,773 patents in 2011, which were 87,405 more than in 2010. This is an overall year-to-year growth rate of 12 percent.

The number of patents granted by each of the IP5 Offices increased in 2011, at the KIPO and the SIPO by as much as 38 percent and 27 percent, respectively. The differences between the IP5 Offices regarding the absolute numbers of patents granted can only be partly explained by differences in the number of corresponding applications. These numbers are also affected by differing grant rates and durations to process applications by the IP5 Offices (see the section below "Statistics on Procedures").

⁴⁵ EPC states grants are grants with first-named owners residing within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states. For EPC states, only the EPO is considered as the granting authority in this chapter.

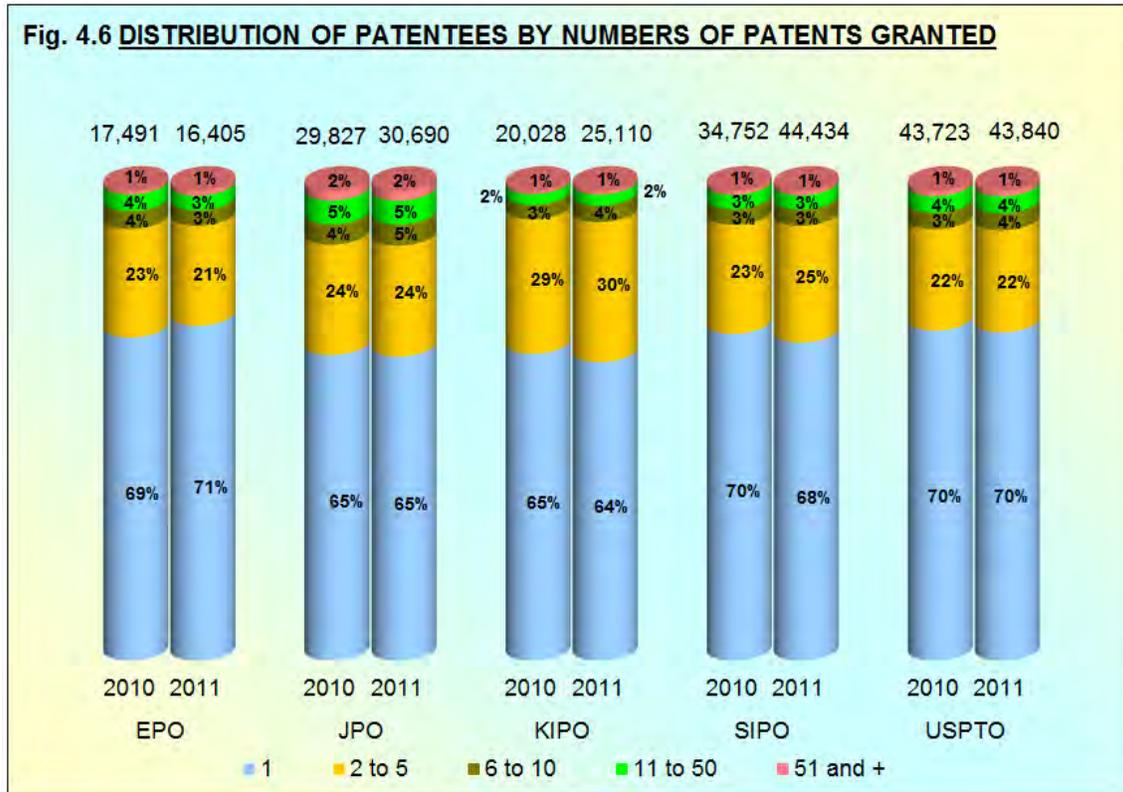
Fig. 4.5 presents the percentage shares of total patents granted by bloc of origin (residence of first-named owners, applicants or inventors).⁴⁶



Generally, the shares from the different blocs of origin are not that different from those observed for the filings in each Office as presented in Fig. 4.2, although at the SIPO the share of granted patents originating from P.R. China is somewhat lower than the share of domestic filings in applications filed.

⁴⁶ EPC states grants are grants with first-named owners residing within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states. For EPC states, only the EPO is considered as the granting authority.

Fig. 4.6 shows the breakdown of patentees by numbers of patents granted.⁴⁷



This diagram shows that the distribution of grants to patentees is similar at each Office and is highly skewed at all of them. The proportions are generally consistent between 2010 and 2011 for each office.

In 2011, the proportion of patentees that received only one grant in a year was between 64 percent for the KIPO and 71 percent for the EPO. The proportion of patentees that received less than 6 patents was between 89 percent for the JPO and 94 percent for the KIPO. The proportion of patentees receiving 11 or more patents is higher at the JPO (7 percent) than at the USPTO (5 percent), the EPO (4 percent), the SIPO (4 percent), and the KIPO (3 percent).

In 2011, the average patentee received 3.8 patents at the EPO, 7.8 at the JPO, 3.8 at the KIPO, 3.9 at the SIPO, and 5.1 at the USPTO. The greatest number of patents granted to a single applicant was 837 at the EPO, 6,620 at the JPO, 15,959 at the KIPO, 3,178 at the SIPO, and 6,148 at the USPTO.

⁴⁷ USPTO counts include patents assigned to organizations and patents owned by individuals. In prior reports, USPTO counts were limited to patents assigned to organizations.

MAINTENANCE

A patent is enforceable for a fixed term, and depends on actions taken by owner. In the five offices, the fixed term is usually a twenty year term from the date of filing the application. In order to maintain protection during this period, the applicant has to pay what are variously known as renewal, annual, or maintenance fees in the countries for which the protection pertains. Maintenance systems differ from country to country. In most jurisdictions, and in particular in those of the IP5 Offices, protection expires if a renewal fee is not paid in due time.

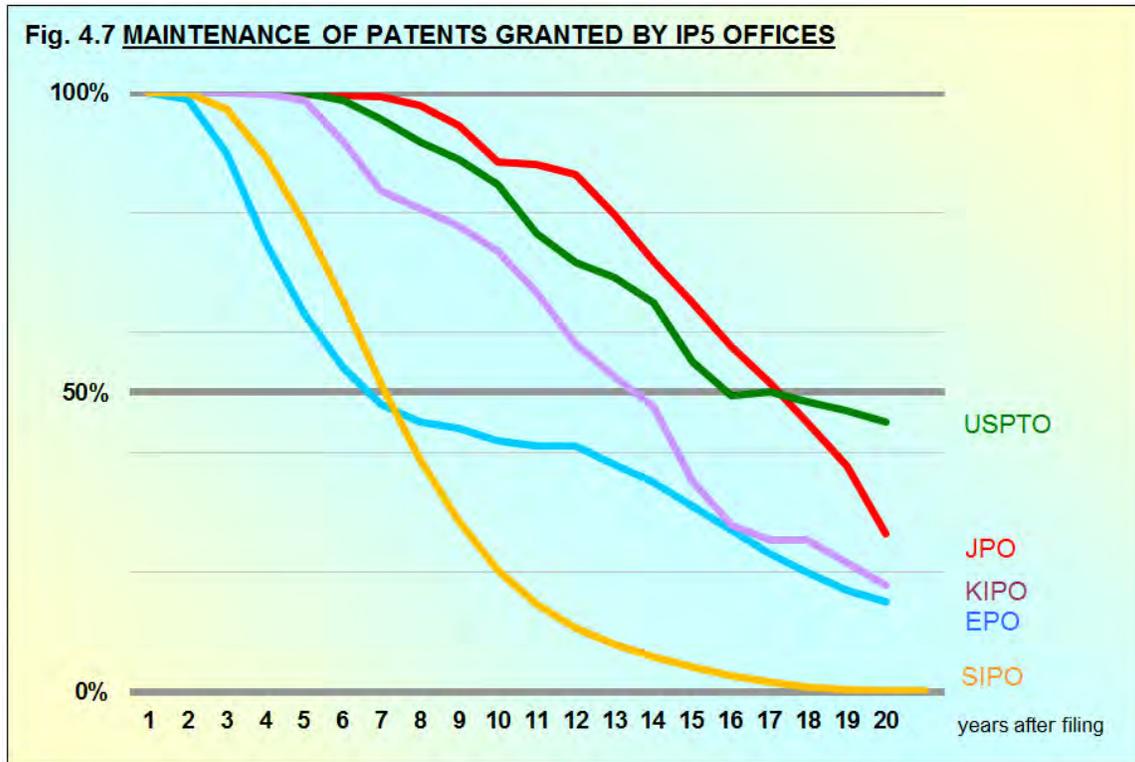
At the EPO, renewal fees are payable from the third year after filing in order to maintain the application. After the patent has been granted, annual renewal fees are then paid to the national Office of each designated EPC contracting state in which the patent has been registered. These national patents can be maintained for different periods in each contracting state.

For a Japanese or Korean patent, the annual fees for the first three years after patent registration are paid as a lump-sum and for subsequent years there are annual fees. The applicant can pay either yearly or in advance.

At the SIPO, the annual fee of the year in which the patent right is granted shall be paid at the time of going through the formalities of registration, and the subsequent annual fees shall be paid before the expiration of the preceding year. The date on which the time limit for payment expires is the date of the current year corresponding to the filing date.

The USPTO collects maintenance fees at 3.5, 7.5, and 11.5 years after the date of grant and does not collect an annually payable maintenance fee.

Fig. 4.7 shows the proportions of patents granted by each Office that are maintained for differing lengths of time. It compares the rate of granted patent registrations existing and in force each patent year starting with the year of application.



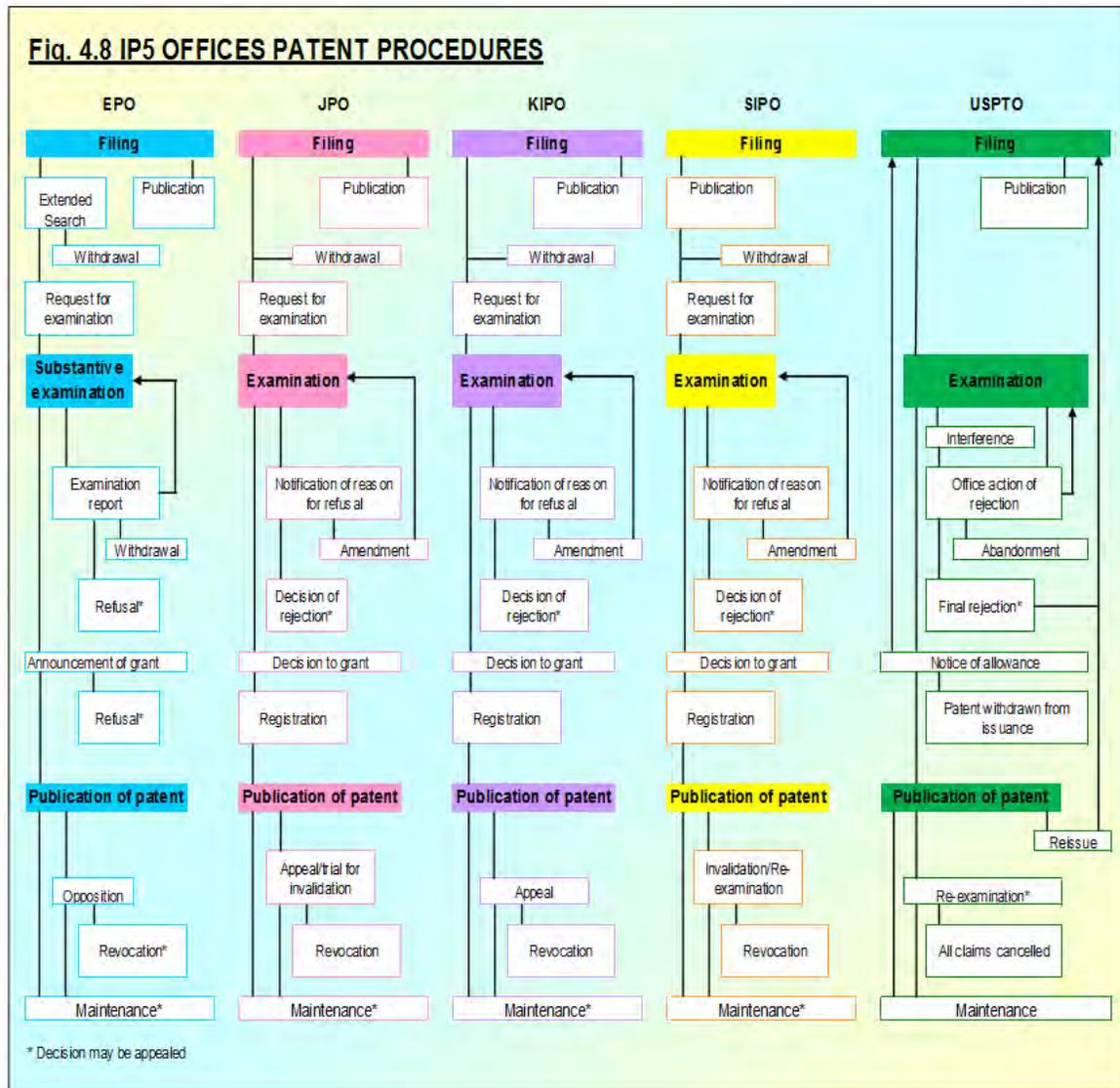
Over 50 percent of the patents granted by the JPO and the USPTO are maintained for at least 17 years from filing, compared to 13 years for the KIPO, and 7 years for patents granted by the EPO and by the SIPO.

The EPO proportions represent an average ratio of maintenance in the EPC states. The figures are strongly impacted by the large proportion of patents granted for many states that joined the EPO within the recent years. Considering the shape of the curve for the EPO in Fig. 4.7, the first 12 years reflect mainly the building up of the maintenance pattern in the newer EPC states, while the last 8 years reflect the maintenance pattern in the more long standing EPC states.

The USPTO payment schedule is somewhat hidden because the data are shown on a time basis (by year after application) that is different from the time basis used for collection the fees (by year after patent grant).

PATENT PROCEDURES

Fig. 4.8 shows the major phases of the grant procedures at the IP5 Offices and concentrates on the similarities between Offices to motivate the comparative statistics to be presented in Table 4 below. However the reader should always bear in mind when interpreting such statistics that details of the procedures differ between Offices, sometimes to a large degree (e.g. in time lags between stages of the procedures).



See Annex 2 for some further details about the procedures.

STATISTICS ON PROCEDURES

Table 4 shows various statistics as average rates and numbers where applicable for 2010 and 2011. Definitions of the various terms are given in Annex 2.

Rates

The examination rate in the USPTO is 100 percent, since filing implies a request for examination, whereas in the EPO, the JPO, the KIPO, and the SIPO a specific request for examination has to be made. At the EPO the large proportion of PCT applications in the granting procedure gives a high examination rate, as almost all of them proceed to examination. The examination rate is somewhat lower at the JPO and the KIPO because applicants have substantially more time to evaluate whether to proceed further with the application or not.

The grant rates at the EPO, the JPO, the KIPO, and the USPTO increased from 2010 to 2011. The grant rate from the SIPO is not currently available.

Pendencies

In the successive stages of the procedure, there are pending applications awaiting action in the next step of the procedure. The number of pending applications gives an indication of the workload (per stage of procedure) from the patent grant procedure in each of the IP5 Offices. However this is not a particularly good indicator for the backlog in handling applications within the Offices, since a substantial part of pending applications are awaiting action from the applicant. This could be for instance a request for examination, or a response to actions communicated by the Office.

As shown in Table 4, altogether more than 3.2 million applications were pending in the EPO, the JPO, the KIPO, and the USPTO at the end of 2011, a decrease from the total pending at the end of 2010 (3.4 million). The SIPO does not report this information.

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Table 4: STATISTICS ON PROCEDURES⁴⁸

Progress in the procedure Rates in percentage		Year	EPO	JPO	KIPO	SIPO	USPTO
Examination ⁴⁹		2010	92.6	63.7	79.2	284,967	100.0
		2011	92.9	65.8	72.4	327,188	100.0
Grant ⁵⁰		2010	42.5	54.9	62.7	135,110	61.2
		2011	47.4	60.5	64.5	172,113	63.3
Opposition		2010	5.2	-	-	-	-
		2011	5.0	-	-	-	-
Maintenance after opposition		2010	67.4	-	-	-	-
		2011	68.6	-	-	-	-
Appeal ⁵¹	On examination	2010	26.7	28,300	-	-	5.9
		2011	28.0	27,112	-	-	5.7
	On opposition	2010	46.5	-	-	-	-
		2011	46.7	-	-	-	-
Pendency in the procedure							
Search	Number of pending applications	2010	140,946	-	-	-	-
		2011	123,326	-	-	-	-
	Pendency times in search (months)	2010	7.5	-	-	-	-
		2011	7.7	-	-	-	-
Examination	Number of applications awaiting request for examination	2010	20,474	816,024	235,019	n.a.	-
		2011	22,205	770,994	241,855	n.a.	-
	Number of pending examinations	2010	346,449	573,279	520,864	n.a.	721,801
		2011	355,803	448,123	528,756	n.a.	662,457
	Pendency ⁵² time to first office action (months)	2010	21.8	28.7	18.5	11.6	24.4
		2011	25.1	25.9	16.8	11.4	23.6
Pendency ⁵³ time in examination (months)	2010	39.1	35.3	24.6	24.2	34.9	
	2011	40.5	34.0	22.8	22.9	33.8	
Opposition	Number of pending applications	2010	5,398	-	-	-	-
		2011	5,204	-	-	-	-
	Pendency time in opposition (months)	2010	21.4	-	-	-	-
		2011	20.4	-	-	-	-
Invalidation	Pendency time in invalidation (months)	2010	-	-	-	7.6	-
		2011	-	-	-	7.5	-

- = not applicable n.a. = not available

⁴⁸ Definitions for the terminology used in Table 4 are available in Annex 2. Also, please see the explanatory text preceding this table.

⁴⁹ For the SIPO, only numbers are available.

⁵⁰ For the SIPO, only numbers are available.

⁵¹ For the JPO, only numbers are available.

⁵² For the EPO, the first office action is in fact the search with written opinion on patentability.

⁵³ For the EPO, the pendency time in examination is calculated from the date of the filing.

Chapter 5

THE IP5 OFFICES AND THE PATENT COOPERATION TREATY (PCT)

This chapter presents statistics describing various activities of the IP5 Offices that relate to the PCT system. The graphs cover five-year periods that include the latest year for which reliable data are available.

Graphs are presented that display the shares, by origin, of those patent applications and grants using the PCT filing route. Descriptions are given of additional activities of the IP5 Offices under the PCT, as RO for applicants in their respective territories, as ISA and as IPEA. PCT searches are a significant workload item at the IP5 Offices in addition to those already described in Chapter 4.

Statistics in this chapter are derived from the Intellectual Property Statistics of WIPO⁵⁴ and from the IP5 Offices.

Selected statistics for patent families are included in this chapter. A patent family is a group of patent filings that claim the priority of a single filing.⁵⁵

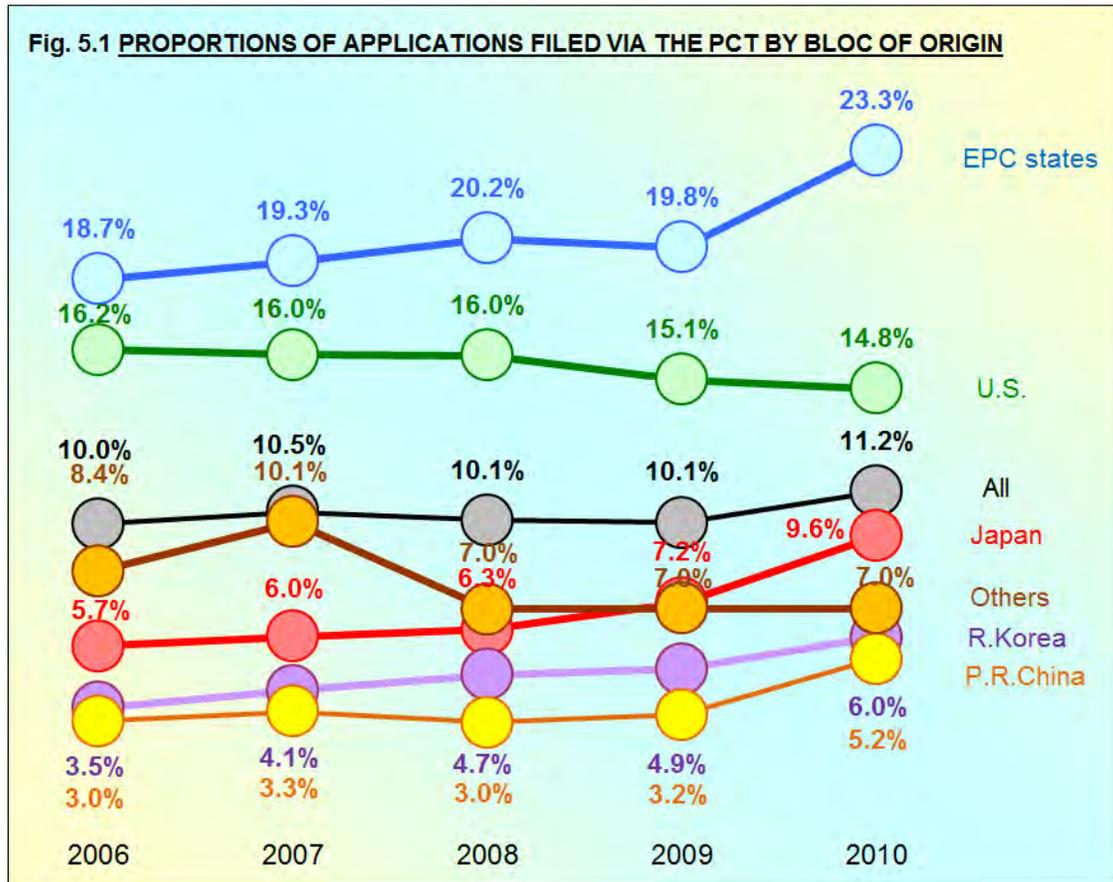
⁵⁴ This edition refers to general patent data as of March 2012, and to July 2012 for PCT international applications.

⁵⁵ For a further discussion of patent families, see the term definitions in Annex 2 and the statistics presented earlier in Figs. 3.13 to 3.15 and Table 3.

THE PCT AS FILING ROUTE

PATENT FILINGS

Fig. 5.1 shows, for each bloc of origin (residence of first-named applicants or inventors), the proportions of all patent applications filed that are PCT international applications. Applications are counted in the year of filing.



On average, 11.2 percent of the applications were filed via the PCT route in 2010.

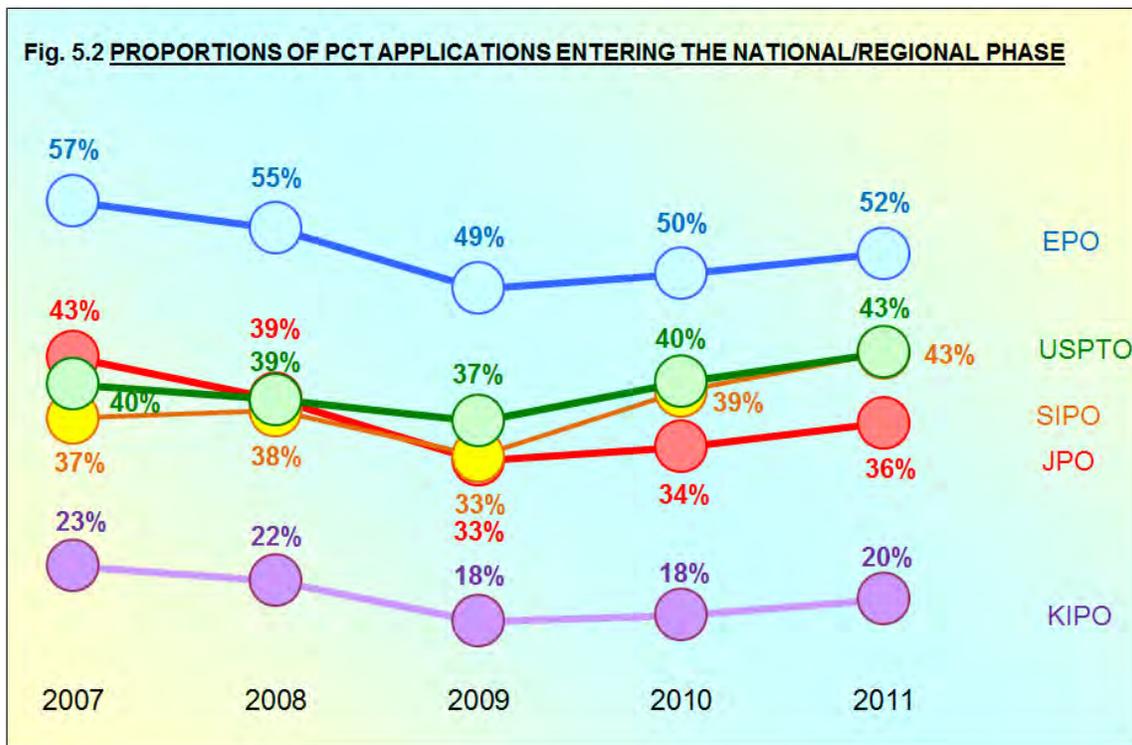
In 2010, the proportion of applications filed via the PCT increased, with the exception of applications originating from the U.S. and from Others. In the case of the U.S., the decline of the proportion can be partially explained by the decrease in absolute numbers of PCT international applications. The proportions for EPC states origin applications⁵⁶ and U.S. origin applications continue to be higher than the proportions for applications from the remaining blocs.

⁵⁶ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states.

NATIONAL/REGIONAL PHASE ENTRY RATE

After the international phase of the PCT procedure, applicants decide whether they wish to continue further with their applications in the national or regional phase for each country of interest. A decision has to be made for each country or regional organisation. If the decision is made to proceed further, the applicant has to fulfil the various requirements of the selected PCT contracting states or organisations. The application then enters the national or regional phase.

Fig. 5.2 shows the proportions of PCT applications in the international phase that entered the national or regional phase at each of the IP5 Offices. Applications are counted in the year corresponding to the date when the delay to enter the national or regional phase has expired⁵⁷.



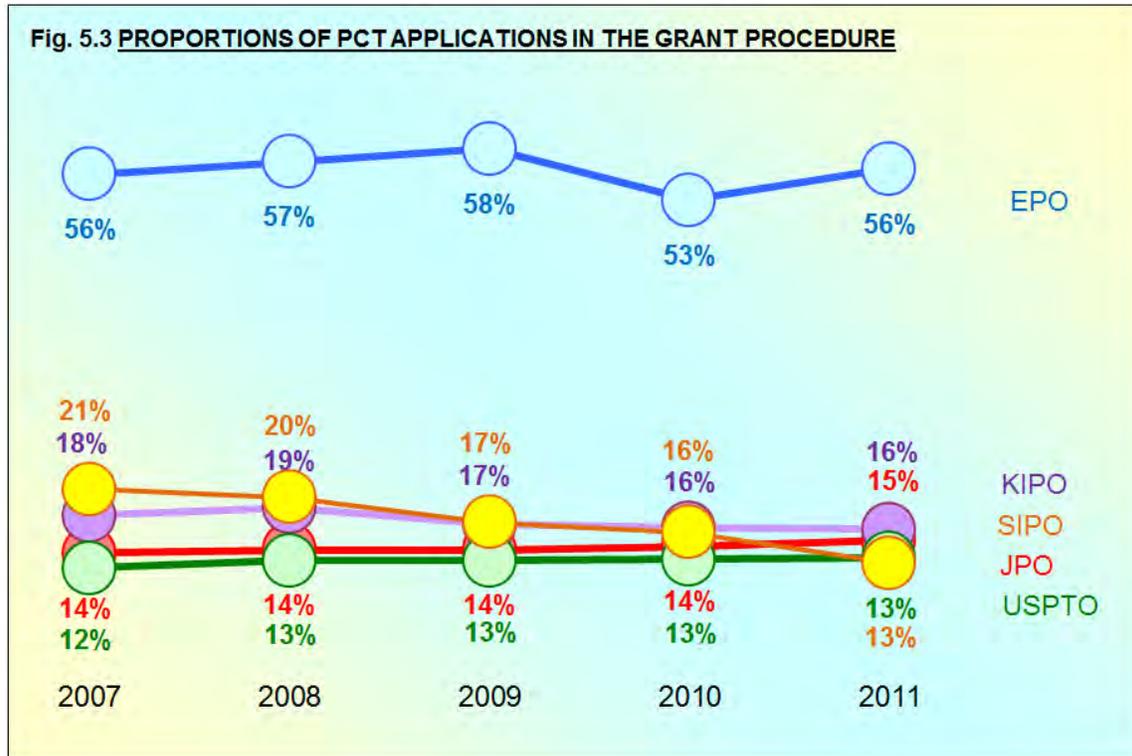
A higher proportion of PCT applications enter the regional phase at the EPO than enter the national phase at the JPO, the KIPO, the SIPO, or the USPTO. This is due to the multinational dimension of the EPO, which provides an opportunity to proceed further with a unique procedure for several countries.

There is a general declining trend observed at all Offices up to 2009. In both 2010 and 2011, the proportions grew for all Offices, with the EPO retaining the highest proportion.

⁵⁷ It should be noted that proportions of PCT applications entering national phase at EPC contracting state national offices are not reported here.

SHARE OF PCT APPLICATIONS

Fig. 5.3 shows the share of PCT among all applications that entered the grant procedure at each Office (as presented earlier in Fig. 4.1).

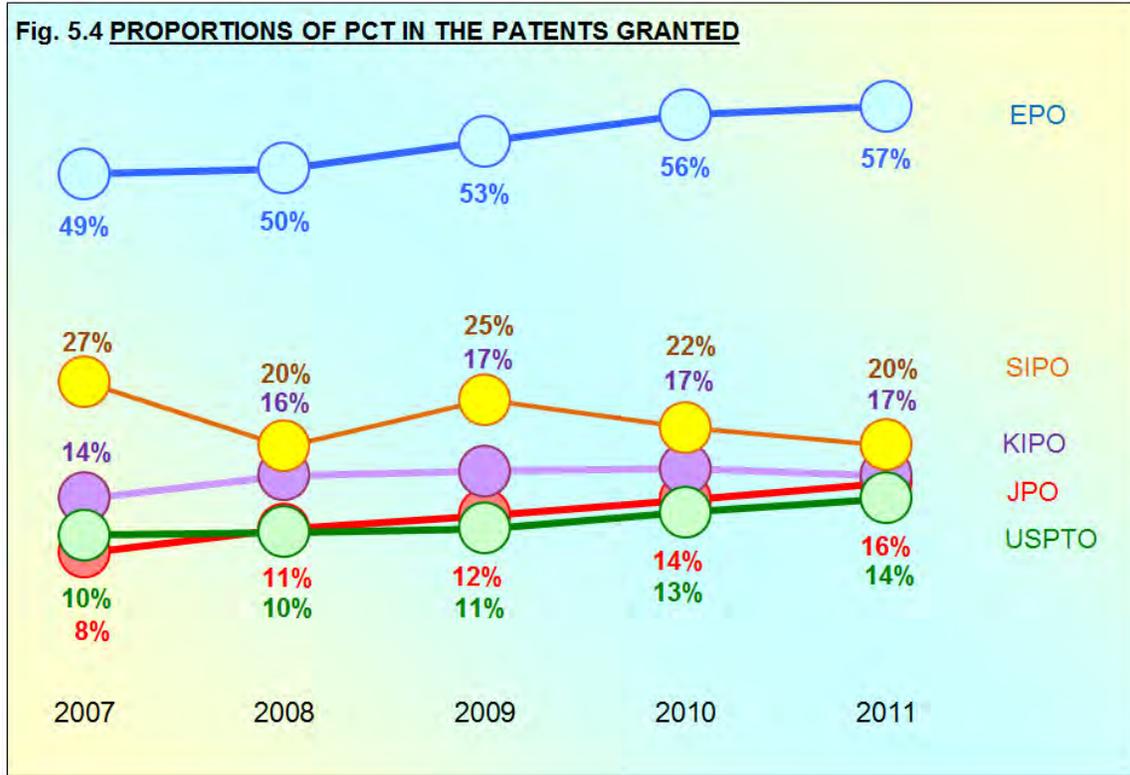


As has already been mentioned above, the EPO has a higher proportion of PCT applications than the other Offices.

The EPO had an increasing proportion of PCT national/regional applications in 2011 after an unusual decrease in 2010. This decrease can probably be explained by the rule adjustment discussed earlier that led to additional divisional non-PCT applications in 2010 as a one-off effect. The SIPO had a decrease in the PCT share of all applications that entered the grant procedure in 2011, mainly due to the higher growth rate of the patent applications via Paris-route than the growth rate of PCT applications entering national phase.

PCT GRANTS

Fig. 5.4 shows the proportions of patents granted by each of the IP5 Offices that were based on PCT applications.



Granted patents generally relate to applications that had been filed several years earlier.

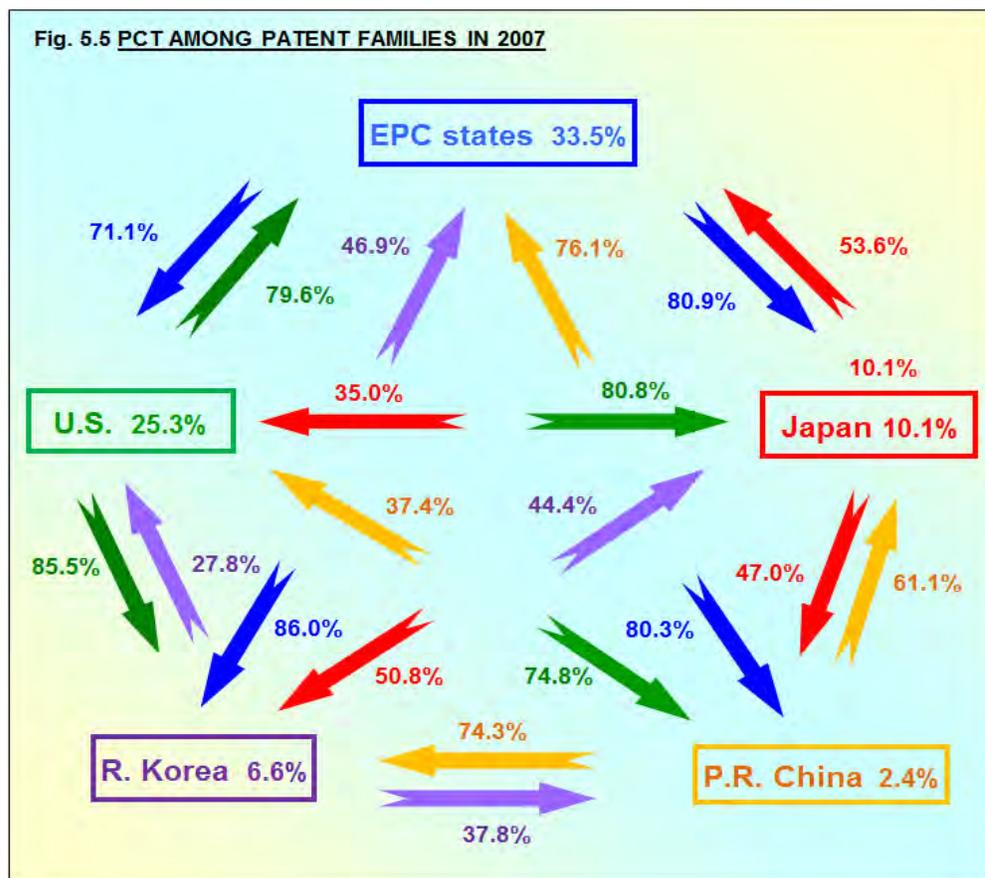
Over the period, there was a general increase of the proportion of PCT in granted patents. The SIPO, however, had a decreasing proportion from 2009 to 2011, which can be explained by the faster growth of patent applications through Paris-route than PCT applications entering into national phase.

PATENT FAMILIES AND PCT

A patent family is a group of patent filings that claim the priority of a single filing.⁵⁸

The PCT system provides a good way to make subsequent patent applications in a large number of countries. Therefore it can be expected that many patent families flowing between blocs will use the PCT route. In this section, the use of the PCT system implies that at least one PCT application has been made within the family of filings for the same invention. Historical tables for the years 1995 to 2007 can be found in the statistical data file that is attached to the web based version of this report.

Fig. 5.5 shows the usage of the PCT among patent families in 2007. Two types of percentages are shown. The first, next to the name of each bloc⁵⁹, is the proportion of the overall number of first filings for the bloc that generated families using the PCT. The second, next to the arrows indicating flows between-blocs, shows the share of total patent family flows that used the PCT system. This figure is based on first filings in 2007, and can be compared with Fig. 3.13.

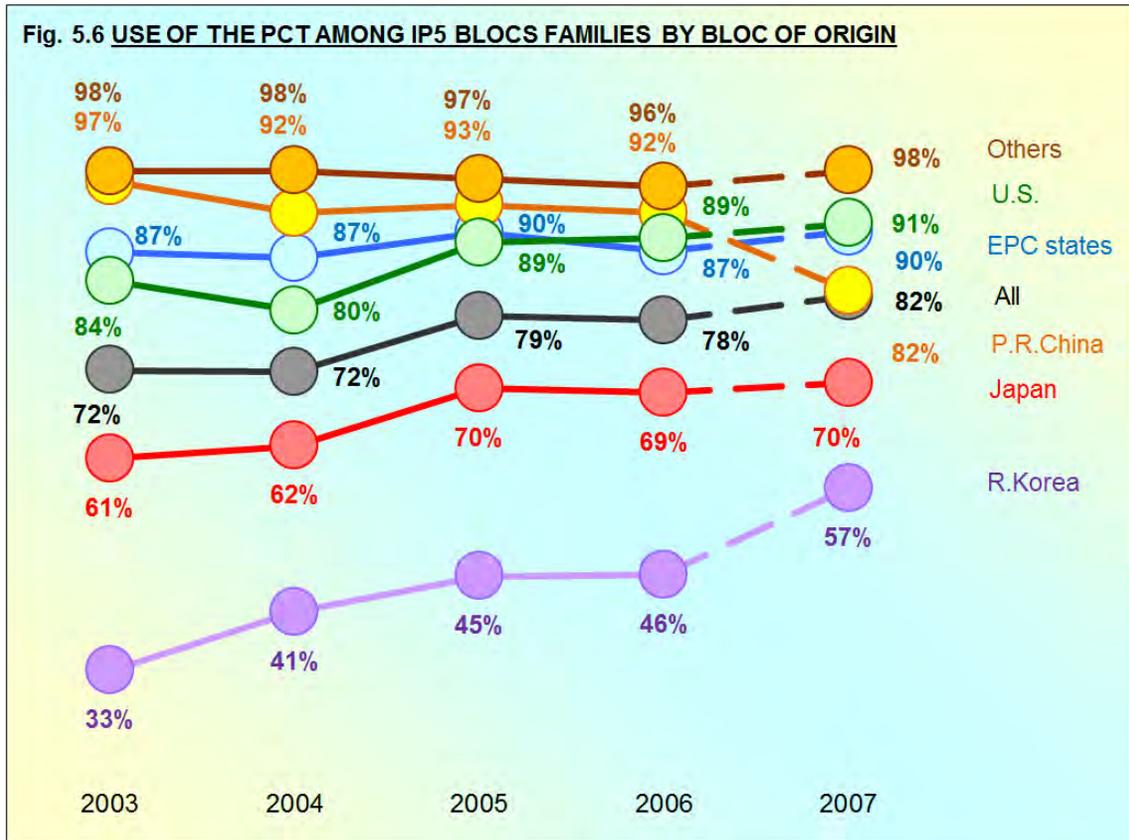


⁵⁸ For a further discussion of patent families, see the term definitions in Annex 2.

⁵⁹ EPC states applications are applications made by residents from within the EPC bloc as a whole. See the EPO section of Chapter 2 for a listing of EPC states

In general, the usage of the PCT route is far higher when making applications abroad rather than at home. Applicants from the U.S. and the EPC states prefer to use the PCT system to a greater extent than applicants from P.R. China, Japan, and R. Korea.

Fig. 5.6 shows the proportions of IP5 Blocs patent families by bloc of origin (residence of first-named applicants or inventors), as given earlier in Fig. 3.15, that made some use of the PCT system.



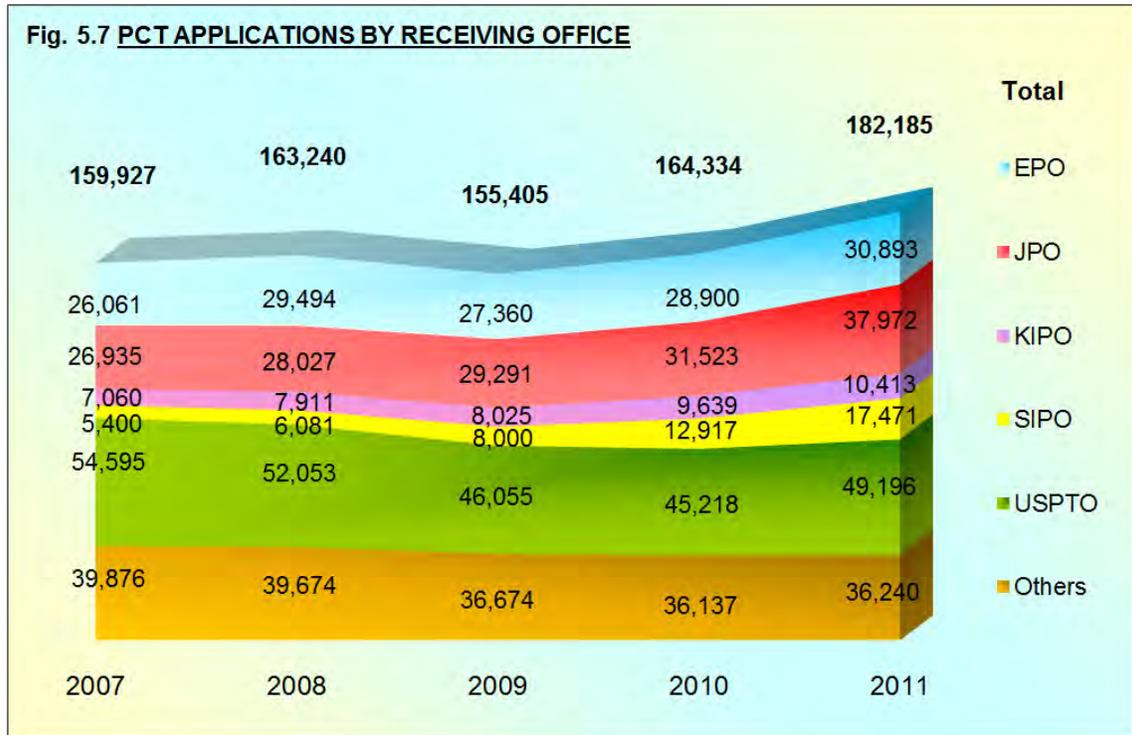
Since IP5 Blocs patent families represent highly internationalised applications, it is not surprising that the average rate of PCT usage is high compared to the overall usage of PCTs among applications in general, as was shown in Fig. 5.1. The usage of the PCT system has generally grown in the IP5 Blocs families over the period from 2003 to 2006.

Comparable data back to 1995 for IP5 Blocs patent families, as well as for Four Blocs patent Families and Trilateral patent families (that were used in previous editions) are given in the statistical data attached to the web based version of this report.

PCT AUTHORITIES

Under the PCT, each of the IP5 Offices acts as RO, mainly for applicants from its own geographical zone, and as ISA and IPEA for non-residents and residents. The following graphs show the trends from 2007 to 2011.

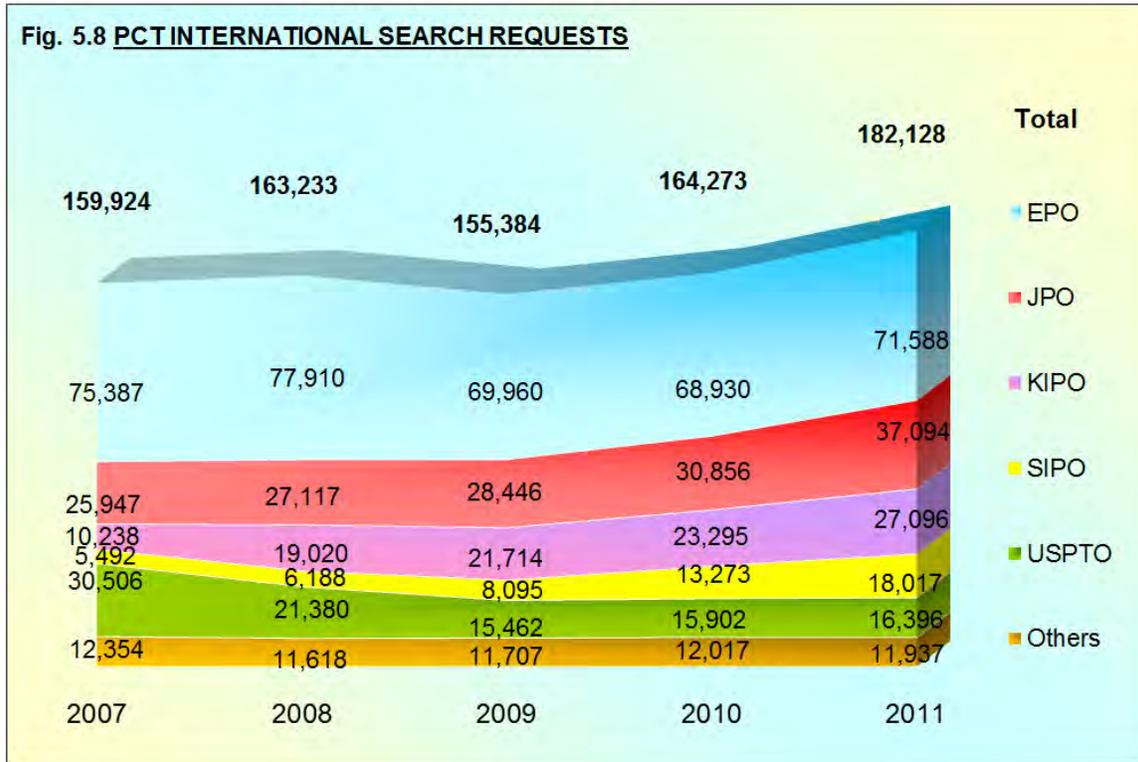
Fig. 5.7 shows the breakdown of PCT international filings by ROs over time.



The totals for PCT international filings are also shown in Fig. 3.1. After a decrease of about 5 percent in 2009, total PCT international filings increased by 6 percent in 2010 and 11 percent in 2011. The compound annual growth rate from 2007 to 2011 was 3.3 percent.

In 2011, the IP5 Offices had an overall increase of PCT international filings of 14 percent. The JPO (20 percent in 2011) and the SIPO (35 percent in 2011) had the largest increases. Together the IP5 Offices were receiving office for 80 percent of the PCT international filings in 2011 (75 percent in 2007).

Fig. 5.8 shows the breakdown over time of the numbers of international search requests to Offices as ISA.

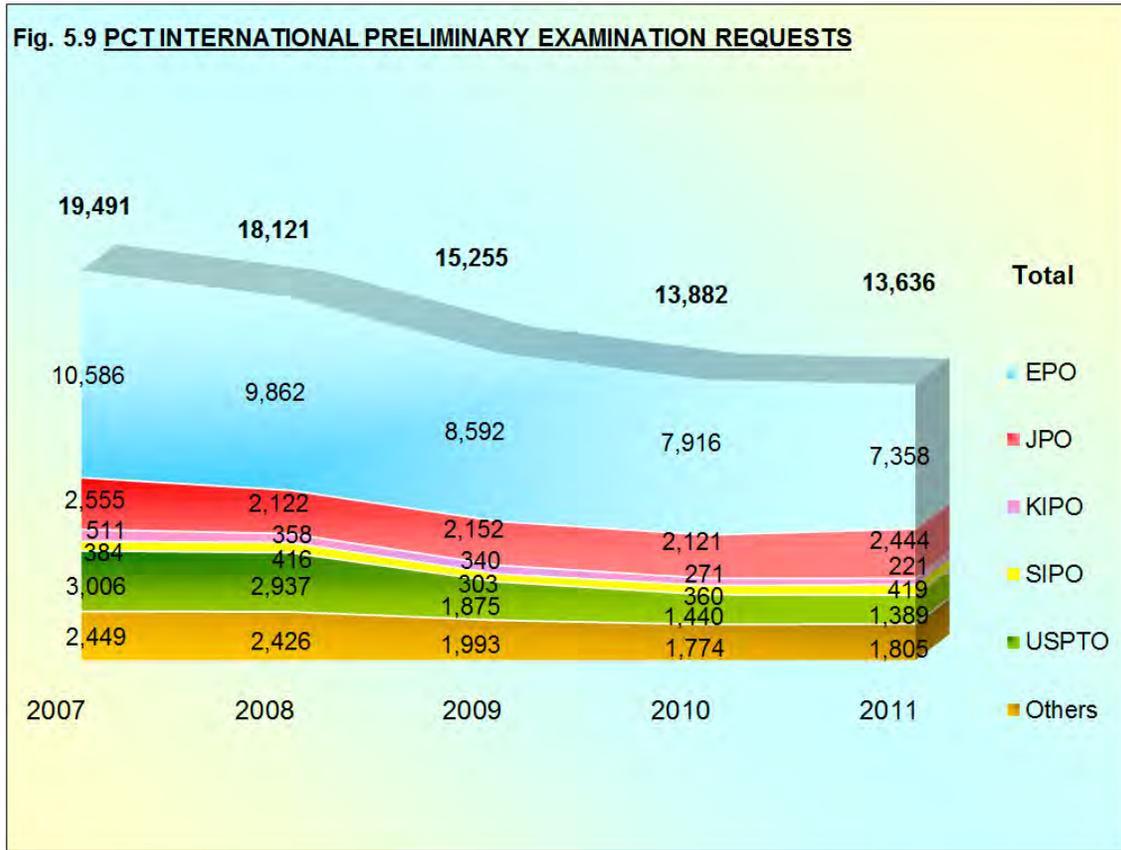


The IP5 Offices together received 93 percent of the PCT international search requests in 2011, compared to 92 percent in 2007. During this time period, the proportion of applicants that selected the KIPO (15 percent in 2011) and the SIPO (10 percent in 2011) to perform the PCT international search grew rapidly.

In 2011, strong growth was experienced by the KIPO (16 percent), the JPO (20 percent), and the SIPO (36 percent). The EPO and the USPTO both experienced smaller increases.

Since 2006, the KIPO has acted as an available ISA for international applications filed under the PCT in the RO/US, or the RO/IB where at least one of the applicants is a resident or national of the U.S. Although it increased in 2011, the combined number of international search requests to the KIPO and the USPTO remained relatively stable from 2006 to 2010.

Fig. 5.9 shows the breakdown over time of the numbers of international preliminary examination requests to Offices as IPEA.



The number of requests for international preliminary examination has declined substantially after rule changes (in 2004) regarding time limits to enter the national or regional phase and the introduction of a written opinion on patentability with the international search report. This made the international preliminary examination less attractive for most applicants. Together, the IP5 Offices were in charge of 87 percent of the IPEA work in 2011, the same percent as in 2007.

The EPO has consistently performed the highest proportion of the international preliminary examinations each year. Annually, from 2007 to 2011, the EPO performed over half of the international preliminary examinations with at least three times more examinations each year than any other office during the period.

Chapter 6

OTHER WORK

This brief chapter contains further statistics of other work done on IP rights that is not common to all five offices. The data presented below supplement the information appearing in earlier chapters of this report.

Other work includes applications for plant patents (USPTO); reissue patents (USPTO); applications for patents other than those for inventions: utility models (JPO, KIPO, and SIPO), designs (JPO, KIPO, SIPO, and USPTO), trademarks (JPO, KIPO and USPTO); and searches on behalf of national Offices (EPO).

The utility model is different from the patent for invention discussed in Chapter 1. The utility model system is designed to protect a device related to the shape or construction of articles or combination of articles (JPO, SIPO) or a creation of a technical idea using the rules of nature regarding the shape, structure or combination of subjects (KIPO). Contrary to most patent systems, a utility model is registered without a substantive examination as long as it meets basic requirements. The maximum period of protection for a utility model in Japan, R. Korea and P.R. China is 10 years which is shorter than for a patent for invention.

Neither the EPO nor the USPTO grants utility models. However, the USPTO's main type of patent is called a utility patent which is issued for the invention of a new and useful process, machine, manufacture, or composition of matter, or a new and useful improvement thereof. It is similar to the standard patents of the EPO, the JPO, the KIPO, and the SIPO.

The numbers of requests received for these types of other work are shown for 2010 and 2011 in Table 6.

Table 6: STATISTICS ON OTHER WORK

Activities	Year	EPO	JPO	KIPO	SIPO	USPTO
Searches for national offices	2010	27,818	-	-	-	-
	2011	26,227	-	-	-	-
Design applications	2010	-	31,756	57,187	421,273	29,059
	2011	-	30,805	56,524	521,468	30,467
Utility model applications	2010	-	8,679	17,144	409,836	-
	2011	-	7,984	11,854	585,467	-
Plant patent applications	2010	-	-	-	-	992
	2011	-	-	-	-	1,139
Re-issue patent applications	2010	-	-	-	-	1,180
	2011	-	-	-	-	1,151
Trademark applications	2010	-	113,519	121,125	-	370,168
	2011	-	108,060	123,814	-	405,684

Some notable changes from 2010 to 2011 were a 24 percent increase for Design applications and a 43 percent increase for Utility model applications at the SIPO, a 31 percent decrease for Utility Model applications at the KIPO, and a 10 percent increase for trademark applications at the USPTO.

Annex 1

DEFINITIONS FOR OFFICES EXPENDITURES

EPO EXPENSES UNDER IFRS (Fig. 2.2)

The EPO uses a new distribution of the expenses. The full costs are distributed to 8 types of EPO products. Of these, five are directly related to processing of patent applications: filing, search, examination, opposition and appeal. The other three types are related to different tasks performed by the EPO: patent information and publication, technical cooperation and the European patent academy.

Direct costs immediately related to one product are entirely allocated to this product. The business support and other indirect costs are distributed to the products. All indirect costs are distributed according to staff and usage keys.

Business support and other indirect

- Salaries and allowances of permanent staff as well as temporary staff, pensions, long-term care, death, invalidity and sickness coverage as well as pension taxation (taking due account of post-employment liabilities).
- Shift of tax adjustment liability from contracting states to the EPO.
- Training, recruitment, transfer and leaving costs, medical care, staff welfare.
- Depreciation for buildings, IT equipment and other tangible and intangible assets, including the depreciation component of financial leases.
- Operating costs related to the maintenance of Electronic Data Processing hardware and software, purchases below capitalization threshold (EUR 750), licenses, programming costs of self-developed systems as far as they do not qualify for capitalization.
- Operating costs related to the maintenance of buildings, technical installations, equipment, furniture and vehicles, such as rent, cleaning and repairs, electricity, gas, water.

Patent information and publication

Publication of patent documentation, raw data products, public information, customer services, website, conference, exhibitions and fairs.

Technical cooperation

Cooperation with contracting states including support to national Patent offices, assistance to third countries, Trilateral and IP5 activities, European qualifying examination.

European patent academy

Professional representatives, conference costs, associations.

JPO EXPENDITURES (Fig. 2.3)

Expenses for JPO's business

Expenses for business processing

A. General processing work

Existing personnel (including increase and transfer)

General administration

Various councils

Encouragement of guidance including patent management

External rented Offices

Internationalisation of industrial property administration

Project for supporting medium and small company's applications

B. Examination and appeals/trials, etc.

Infrastructure improvement for examination and appeals/trials

Disposition of examination and appeals/trials

Execution of PCT

Patented micro organisms deposition organization

C. Information management

Management of information for use in examination and appeals/trials

D. Publication of Patent Gazette, etc.

E. Computers for patent processing work

F. Facility improvement

G. National Center for Industrial Property Information and Training operation

H. Others

All other expenses not covered by the above.

KIPO EXPENDITURES (Fig. 2.4)

A. Salaries and benefits

Compensation for the services of employees or the inclusive expenditure of the services of employees: salaries, bonuses and remuneration of temporary staff.

B. General operating expenses

Expenditure on the operation of organization.

C. External support

Support for promoting activities of private organizations.

D. Equipment

Expenditure on the purchase of property that normally may be expected to have a period of service of a year or more.

E. Other expenses

All other expenses not covered by the above.

SIPO EXPENDITURES (Fig. 2.5)

A. Patent Examination

B. Social Security

Pension in administrative agencies

C. Housing Security

Housing fund

House-lease subsidy

House-purchase subsidy

D. Other expenses

All other expenses not covered by the above.

USPTO EXPENDITURES (Fig. 2.6)

A. Salaries and Benefits:

Compensation directly related to duties performed for the Government by Federal civilian employees. Also included are benefits for currently employed Federal civilian personnel.

B. Rent and Utilities:

Payments for the use of land, structures, or equipment owned by others and charges for communication and utility services.

C. Contracts and Services:

Services acquired by contract from non-Federal sources (that is, the private sector, foreign governments, State and local governments, Native American/Native Alaskan tribes), as well as, from other units within the Federal Government. This consists of three types of services:

- Management and professional support services.
- Studies, analyses, and evaluations.
- Engineering and technical services.

D. Other expenses:

All other expenses not covered by the above including but not limited to:

Equipment: Property of a durable nature, which is defined as property that normally may be expected to have a period of service of a year or more, after being put into use, without material impairment of its physical condition or functional capacity. Also included is the initial installation of equipment when performed under contract.

Printing: Printing and reproduction obtained from the private sector, or from other Federal entities.

Supplies and Materials: Commodities that are ordinarily consumed or expended within one year after they are put into use, converted in the process of construction or manufacture, used to form a minor part of equipment or fixed property, or other property of little monetary value that does not meet any of the three criteria listed above, at the option of the agency.

Annex 2

DEFINITIONS FOR TERMS AND FOR STATISTICS ON PROCEDURES

This Annex contains firstly definitions of the main terms used in the report.⁶⁰ After that there is an explanation of the patent procedures relating to Fig. 4.8. Then finally there are definitions of the statistics on procedures that appear in Table 4.

APPLICATIONS, COUNTING OF

Application counts are mainly determined by counting each national, regional or international application only once. However, alternative representations are also given in Chapter 3 after cumulating the number of designated countries over applications.

In this report, applications are counted in terms of patent filings; first filings; requests for patents entering a grant procedure; and demand for national patent rights.

- Counts of ‘Patent filings’ include direct national, direct regional, and initial PCT applications;
- Counts of ‘First filings’ include initial patent applications filed prior to any later subsequent filings to extend the protection to other countries;
- Counts of ‘Requests for patents entering a grant procedure’ include direct national, direct regional, national stage PCT, and regional stage PCT applications;
- Counts of ‘Demand for national patent rights’ include direct national, designated regional, national stage PCT, and designated regional stage PCT applications.

These counting methods are used in various sections of the report, and particularly in Chapter 3. The methods are discussed in greater detail both at the beginning of Chapter 3 and at the beginning of the corresponding sections of Chapter 3.

BLOCS, GEOGRAPHIC

Six geographical blocs are defined in this report. The first five blocs, together, are referred to as the “IP5 Blocs”. They are:

- The EPC contracting states (EPC states in this report) corresponding throughout the period covered in this report to the territory of the 38 states party to the EPC at the end of 2011;
- Japan (Japan in this report);
- People’s Republic of China (P.R. China in this report);
- Republic of Korea (R. Korea in this report);
- United States of America (U.S. in this report).

⁶⁰ A more extensive glossary of terms appears as Annex 3 in the web based version of the report.

The remaining geographical areas are grouped together as:

- the rest of the world (Others in this report).

These blocs are referred to as blocs of origin on the basis of the residence of the applicant (throughout the report) or as filing blocs on the basis of the place where the patents are sought (in Chapters 3 and 5).

DEMAND FOR PATENT RIGHTS

Demand for patent rights refers to applications for patents for invention. Counts of patent applications (see above) are made principally by counting each national, regional or international application only once. However, alternative representations are also given in Chapter 3 in terms of the demand for national patent rights, after cumulating the number of designated countries over applications. This makes a difference only in regard to systems where multiple countries can be designated in an application (PCT and regional systems). Demand for 'national' patent rights effectively measures the number of national patent applications that would have been necessary to seek patent protection in the same number of countries if there were no international or regional systems. The counts include direct national filings, designations in regional systems, national stage PCT applications, and designations in regional stage PCT applications.

DIRECT APPLICATIONS

“Direct” applications are filed directly with the country or regional patent office where protection is sought and are counted in the year they are filed. They are distinguished from “PCT” applications in order to distinguish the two subsets of applications handled by Patent offices.

DOMESTIC APPLICATIONS

These are defined as all demands for patents made by residents of the country where the application is filed⁶¹. For the purpose of reporting statistics for the EPC contracting states considered as a bloc, domestic applications are given with regard to the applications made by residents from anywhere inside the EPC bloc. For example, applications made by residents of France in one of the other EPC contracting states are counted as domestic demand in the EPC bloc.

FIRST FILINGS

These are applications filed without claiming the priority⁶² of another previous filing and are counted in the year they are filed. They are usually made in the home country or region. All other applications are subsequent filings, usually made within one year of the

⁶¹ For the USPTO this is by the residence of the first named inventor; For the EPO, the JPO, the KIPO and the SIPO, this is by the residence of the first named applicant.

⁶² See the Article 4A to 4D of the Paris Convention at the WIPO web site;
http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf

first filings. In the absence of a complete set of available statistics on first filings, it is assumed in this report that domestic national filings are equivalent to first filings⁶³ and that PCT filings are subsequent filings. Currently, USPTO first filing data, unless otherwise noted, also include a substantial proportion of applications that are continuations of applications previously filed at the USPTO. See also APPLICATIONS, COUNTING OF.

FOREIGN APPLICATIONS

These are defined as all demands for patents made by residents of a location outside of the country or region where the application is filed⁶⁴. See the term definition for *Domestic Applications* for additional details.

GRANTS, COUNTING OF

Grant counts in Chapter 3 are based on the WIPO Industrial Property Statistics series⁶⁵. They are counted in the year that the grants are issued or published. As with the demand for patent rights, the demand for rights granted in each bloc are considered after cumulating the number of designated countries for which national patent rights have been granted via regional procedures. Counts in Chapter 4 are based on IP5 Offices data.

PATENT FAMILIES

A patent family is a group of patent filings that claim the priority of a single filing, including the original priority forming filing itself and any subsequent filings made throughout the world. The set of distinct priority forming filings (that indexes the set of patent families) in principle constitutes a better measure for first filings than aggregated domestic national filings. For the purposes of this report⁶⁶, IP5 Blocs patent families are a filtered subset of patent families for which there is evidence of patenting activity in all IP5 Blocs.⁶⁷

PATENTS IN FORCE

Patents in force are patents that have not expired. Patents may expire for several reasons, two of the most common being the completion of their patent term and the failure to pay a required maintenance fee.

⁶³ The data source used for patent families allows a precise count of first filings. Except in the sections on patent families, an approximation of the number of first filings in the EPC Bloc is made by adding first filings at the EPO to aggregated domestic national applications in the EPC contracting states.

⁶⁴ For the USPTO this is by the residence of the first named inventor; For the EPO, the JPO, the KIPO and the SIPO, this is by the residence of the first named applicant.

⁶⁵ <http://www.wipo.int/ipstats/en/statistics/pct/index.html>

⁶⁶ The statistical annex of this report, that is available at the web site, and previous editions of this report, also give statistics on Trilateral Patent families and Four blocs families. These are a filtered subset of patent families for which there is evidence of patenting activity in all the Trilateral blocs (EPC, Japan and U.S.), or all the Trilateral blocs and R. Korea, respectively.

⁶⁷ For discussion of patent families in general see the OECD working paper "Insight into different types of patent families", <http://www.oecd.org/dataoecd/21/32/44604939.pdf>

PCT APPLICATIONS

International applications filed under the PCT are first handled by appointed Offices during the international phase. About 30 months after the first filing, they enter the national/regional phase to be treated as national or regional applications according to the regulations of each designated Office where protection is sought. “PCT” applications are distinguished from “direct” applications in order to distinguish the two subsets of applications handled by Patent offices. PCT applications are usually counted in the year that they enter the national (or regional) phase although in some parts of this report they are counted in the year of filing in the earlier international phase⁶⁸.

REQUESTS FOR PATENTS ENTERING A GRANT PROCEDURE

These are filings that entered a grant procedure and include direct national, direct regional, national stage PCT, and regional stage PCT applications. Direct national and direct regional applications enter a grant procedure when filed, while in the case of PCT applications, the grant procedure is delayed to the end of the international phase.

SUBSEQUENT FILINGS

Subsequent filings are applications filed that claim the priority⁶⁹ of a previous filing and usually are made within one year of the first filings. See also FIRST FILINGS. Currently, USPTO subsequent filing data also include a substantial proportion of applications that are continuations of first filing and subsequent filing applications previously filed at the USPTO.

⁶⁸ An international phase PCT application can in theory be a first filing but is usually a subsequent filing made up to twelve months after a first filing. A national (or regional) phase PCT entry can follow on from the corresponding international phase PCT filing and is made up to 30 months after the first filing.

⁶⁹ See the Article 4A to 4D of the Paris Convention at the WIPO web site;
http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf

Additional explanations of the IP5 Offices patent procedures in Fig. 4.8 follow.

Examination: search and substantive examination

Each of the IP5 Offices examines a filed patent application based upon novelty, inventive step, and industrial applicability. At the EPO, this examination is done in two phases: a search to establish the state of the art with respect to the invention and a substantive examination to evaluate the inventive step and industrial applicability. For the second phase, a separate request has to be filed no later than six months after publication of the search report.

In the national procedures before the JPO, the KIPO, the SIPO, or the USPTO, the search and substantive examination are undertaken in one phase.

Filing of a national application with the USPTO is taken to imply an immediate request for examination. At the JPO, the KIPO, and the SIPO where deferred examination systems exist, filing of a national application does not imply a request for examination; and this may be made up to three years after filing for the JPO and the SIPO, and up to five years after filing for the KIPO.

The international searches and international preliminary examinations carried out by the IP5 Offices as PCT authorities are not included in the flow chart.

Publication

In the IP5 Offices, the application is to be published no later than 18 months after the of earliest priority date, or otherwise the date of filing (in case of a first filing). The application can be published earlier at the applicant's request. In each of the IP5 Offices, the Publication process is independent of other Office processes such as Examination. Also, at the USPTO, an application that has not and will not be the subject of an application filed in foreign countries does not need to be published if an applicant so requests.

Grant, refusal / rejection, withdrawal

When an examiner intends to grant a patent, this information is communicated to the applicant - Announcement of grant (EPO); Decision to grant (JPO); Decision to grant (KIPO); Decision to grant (SIPO); Notice of allowance (USPTO). If a patent cannot be granted in the form as filed before the Office, the intention to reject the application is communicated to the applicant: (unfavourable) Examination Report (EPO); Notification of reason for refusal (JPO); Notification of reason for refusal (KIPO); Notification of reason for refusal (SIPO); Office action of rejection (USPTO). The applicant may then make amendments to the application, generally in the claims, after which examination is resumed. This procedural step is iterated as long as the applicant continues to make appropriate amendments. Then, either the patent is granted or the application is finally rejected - Intention to refuse (EPO); Decision of rejection (JPO); Decision of rejection

(KIPO); Decision of rejection (SIPO); Final rejection (USPTO) - or withdrawn by the applicant - Withdrawal (EPO); Withdrawal or Abandonment (JPO); Withdrawal or Abandonment (KIPO); Withdrawal or Abandonment (SIPO); Abandonment (USPTO). In addition, if no request for examination for an application is filed to the EPO, the JPO, the KIPO, or the SIPO within a prescribed period (six months after publication of the search report for the EPO, three years from the date of filing for the JPO and the SIPO, and five years from the date of filing for the KIPO), the application will be deemed to have been withdrawn. In all five procedures, an applicant may withdraw or abandon the application at any time before the application is granted or finally refused.

After the decision to grant the patent, the patent specifications are published if certain administrative conditions are fulfilled, known as Publication of patent (EPO, JPO, KIPO, SIPO, and USPTO). At the USPTO, this action also is referred to as “Patent issuance.”

Opposition

The opposition procedures allow third parties to challenge a patent granted before the granting Office.

There is no opposition system at the JPO, the KIPO, and the SIPO.

At the EPO, the period for filing opposition(s) begins after granting of the patents and lasts nine months. If successful, the opposition can lead to a revocation of the patent or to its maintenance in amended form. Furthermore, the patentee may request a limitation or a revocation of his own patents.

In the procedure before the USPTO, there are two features that may lead to the cancellation of a granted patent: interference proceedings and re-examination. The numbers are not reported because these features are not comparable to the opposition procedure at the EPO. At the USPTO, the first feature is a priority contest between applicants/patentees seeking to protect the same invention with the interference proceedings possible at various points during the examination process or shortly after patent grant. The second feature may be requested by third parties or by the patentee during the lifetime of a granted patent. In the near future, the USPTO will be implementing portions of the new America Invents Act which will affect both of these procedures.

Appeal

An appeal can be filed by any of the parties concerned against a decision taken by the IP5 Offices. In practice, applicants can appeal decisions to reject an application or revoke a patent, while opponents can appeal decisions to maintain a patent. The procedure is in principle similar for the IP5 Offices. The examining department first studies the argument brought forward by the appellant and decides whether the decision should be revised. If not, the case is forwarded to a Board of Appeal, which may take the final decision or refer the case back to the examining department.

The SIPO has reexamination and invalidation procedures. Where an applicant for patent is not satisfied with the decision of the SIPO rejecting the application, the applicant may, within three months from the date of receipt of the notification, request the Patent Reexamination Board to make a reexamination. Where any entity or individual considers the grant of a patent right is not in conformity with the relevant provisions of the Patent Law, it or he may request the Patent Reexamination Board to declare the patent right invalid.

Additional definitions for terminology appearing in Table 4 follow.

Table 4 - EXAMINATION RATE

This rate shows the proportion of those applications, for which the period to file a request for examination expired in the reporting year, that resulted in a request for examination up to and including the reporting year.

For the EPO, the request for examination has to be filed no later than six months after publication of the search. For example the rate for 2011 relates to applications mainly filed in the years 2010 and 2011.

For the JPO, the period to file a request for examination is three years from filing date. The rate for 2011 relates mainly to applications filed in the year 2008.

For the KIPO, the period to file a request for examination is five years. The rate for 2011 relates mainly to applications filed in the year 2006.

For the SIPO, the period to file a request for examination is three years from filing date.

At the USPTO, as filing an application implies a request for examination, such a request is made for all applications.

Table 4 - GRANT RATE

For the SIPO, only the number of granted patents is currently available.

For the EPO, this is the number of applications that were granted during the reporting period, divided by the number of disposals in the reporting period (applications granted plus those abandoned or refused).

For the JPO, the grant rate is the number of decisions to grant a patent divided by the number of disposals in the reporting year (decisions to grant or to refuse and withdrawals or abandonment after first office action).

For the KIPO, the grant rate is the number of patent approvals divided by the number of disposals in the reporting year (sum of the numbers of patent approvals, rejections, and withdrawals after first office action).

The USPTO has revised its calculation to present a grant rate that is more consistent with the other IP5 Offices. In previous reports, a USPTO allowance rate was reported rather than a grant rate. In this report, the displayed USPTO grant rate is the total number of issued patents divided by the total number of applications disposed of in the reporting year. Requests for continued examination (RCEs) are not included in the disposals. This grant rate differs from the allowance rate usually reported by the USPTO which counts the total number of applications determined to be eligible by USPTO patent examiners for a patent divided by the total number of applications disposed of in a reporting year; for the allowance rate, RCEs are included in the disposals. Both the rates include plant and reissue patent applications in addition to utility patent applications. However, since utility applications comprise over 99 percent of these applications, the rates are almost identical to rates based strictly on utility applications.

Table 4 - OPPOSITION RATE and MAINTENANCE AFTER OPPOSITION RATE

These terms apply only to the EPO.

The opposition rate for the EPO is the number of granted patents for which the opposition period (which is nine months after the date of grant) ended in the reporting year and against which one or more oppositions were filed, divided by the total number of patents for which the opposition period ended in the reporting year.

The maintenance after opposition rate for the EPO is the number of decisions (in the opposition procedure) to maintain, possibly in amended form, a patent during the reporting year, divided by the total number of decisions in the opposition procedure taken during the reporting year.

Table 4 - APPEAL RATE

For the EPO, appeal rates are given for examination and opposition, being the numbers of decisions in the examination and opposition procedures respectively, against which an appeal was lodged in the reporting year, divided by the number of all decisions for which the time limit for appeal ended in the reporting year.

The USPTO appeal rate on examination, which includes utility, plant, and reissue categories, captures the number of appeals filed after an examiner's decision to issue a final rejection against a patent application. The rate is the number of examiner answers written during the year in response to appeal briefs divided by the number of final rejections issued that year. This rate includes plant patents and reissue patents in addition to utility patents (see comment at TABLE 4 - GRANT RATE).

For all five offices, any subsequent litigation proceedings in national courts are not included.

Table 4 - PENDENCY / SEARCH

This only applies to the EPO.

Number of pending applications is the number of applications received up to and including the reporting year for which a search report has not been made by the end of the reporting year.

Pendency time in search is defined as the median time to complete a search with a written opinion on patentability in the reporting year.

Table 4 - PENDENCY / EXAMINATION / NUMBER OF APPLICATIONS AWAITING REQUEST FOR EXAMINATION

This does not apply to the USPTO.

This figure indicates the number of filed applications awaiting a request for examination by the applicant: for the EPO after publication of the search report; for the JPO and the SIPO at any time during three years after filing; for the KIPO during five years after filing.

For the EPO, this indicates the number of applications for which the search report has been published by the end of the reporting year and for which the prescribed period for the request has not expired (six months after publication of the search report).

For the JPO and the KIPO, numbers of applications awaiting request for examination indicate the number of applications for which no request for examination has been filed by the end of the reporting year, and for which the prescribed period for the request has not expired.

For the JPO, numbers include the number of abandoned/withdrawn applications.

Table 4 - PENDENCY / EXAMINATION / NUMBER OF PENDING APPLICATIONS

For the EPO, this is the number of applications filed for which the search was completed and the request for examination was filed, yet they have not received a final decision by the examining division (announcement to grant, to refuse or abandonment) by the end of the reporting year.

For the JPO and the KIPO, pending applications in examination are applications for which the requests for examination were filed and which have been waiting for a first action and have not been subject to a final action such as withdrawal or abandonment by the end of the reporting year.

For the JPO, the applications for which the applicants wished to make deferred payment of examination request fee and have been still deferring the payment are not counted in the number of pending examinations.

For the USPTO, pending applications in examination are applications which are waiting for a first action and have not been subject to a final action such as withdrawal or abandonment by the end of the reporting year.

Table 4 - PENDENCY / EXAMINATION / PENDENCY TIME TO FIRST OFFICE ACTIONS

For the EPO, this is the average time period, in months, measured from filing at the EPO to issue of the first communication in examination. The search report that is sent to the applicant is accompanied by an opinion on patentability. As long as the applicant then makes a request for examination, this opinion is then resent as the first communication in examination. The pendency first office action is the average time measured from the filing at the EPO to the issue of this first communication in examination.

For the JPO, pendency first office action is the average time period, in months, from the request for examination to first office action in examination.

For the KIPO, pendency first office action is the average time period, in months, from the request for examination to first office action in examination.

For the SIPO, pendency first office action is the average time period, in months, from when applications entered the substantive examination phase following the request for examination to first office action in examination.

For the USPTO, pendency first office action is the average amount of time, in months, from filing to First office Action On Merits (FAOM). A FAOM is generally defined as the first time an examiner either formally rejects or allows the claims in a patent application.

Table 4 - PENDENCY / EXAMINATION / PENDENCY TIME IN EXAMINATION

For the EPO, the counts relate to pendency until dispatch of the decisions. This is the number of pending applications in examination as of the end of the reporting year, divided by the average monthly number of disposals (decisions to grant or refuse, withdrawals, abandonments) during the reporting year.

For the JPO and the KIPO, pendencies for examination in months are the total number of months taken for disposing applications as final actions (decisions to grant or to refuse, withdrawals or abandonments) in the reporting year, divided by the number of final actions during the reporting year.

For the SIPO, pendency for examination refers to the average time period taken, in months, for disposing applications, calculated from the date on which the applications enter the substantive examination phase to the date on which the final actions (decisions to grant or of rejection, withdrawals, or abandonments) are issued.

For the USPTO, pendency examination in months is calculated by measuring the time from filing to abandonment or issue for all applications that are abandoned or issued during a three month period. The average of these times is the pendency in months. This number includes plant patents and reissue patents in addition to utility patents (see comment above at TABLE 4 - GRANT RATE).

Table 4 - PENDENCY OPPOSITION

This is only reported for the EPO.

Number of pending applications is the number of patents against which one or more oppositions have been filed and for which no decision has been taken by the end of the reporting year.

Pendency time in opposition is the number of pending applications in opposition at the end of the reporting year, divided by the average number of disposals in opposition per month in the reporting year.

Table 4 - PENDENCY INVALIDATION

This is only reported for the SIPO.

“Pendency time in invalidation” refers to the duration from the date on which the notification of acceptance of request for invalidation is issued to the date on which the examination decision on request for invalidation is issued.

Acronyms

AIA	America Invents Act
ARIPO	African Regional Intellectual Property Office
CPC	Cooperative Patent Classification
DOCDB	DOCument DataBase [EPO]
EAPO	Eurasian Patent Organization
EPC	European Patent Convention [EPO]
EPO	European Patent Office
EU	European Union
FAOM	First office Action On Merits [USPTO]
FLASH	First Look Application Sharing
FOSR	Four Office Statistics Report
FY	Fiscal Year
IB	International Bureau
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IP	Intellectual Property
IP5	Five IP [Offices] (EPO, JPO, KIPO, SIPO, USPTO)
IP5 SR	IP5 Statistics Report
IPC	International Patent Classification
IPR	Intellectual Property Rights
IPEA	International Preliminary Examination Authority
ISA	International Searching Authority

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Acronyms

IT	Information Technology
JP-FIRST	JP-Fast Information Release Strategy
JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
OECD	Organization for Economic Cooperation and Development
OFF	Office of First Filing
OSF	Office of Second Filing
PACE	Program for Accelerated Prosecution of European Patent Applications
PCT	Patent Cooperation Treaty
PL	Public Law
PPH	Patent Prosecution Highway
RCE	Requests for Continued Examination
R. Korea	Republic of Korea
RO	Receiving Office
SIPO	State Intellectual Property Office of the People's Republic of China
SMEs	Small and Medium Size Enterprises
TSR	Trilateral Statistical Report
U.S.	United States of America
USPTO	United States Patent and Trademark Office
VA	U.S. State of Virginia
WIPO	World Intellectual Property Organization

European Patent Office (EPO)

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Japan Patent Office (JPO)

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Japan

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Korean Intellectual Property Office (KIPO)

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Republic of Korea

<http://www.kipo.go.kr>

State Intellectual Property Office of the People's Republic of China (SIPO)

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This report contains statistical information from the five major Patent offices in the world. It gives a description of worldwide patenting activities, as well as detailing and comparing business processes taking place at each Office.

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