

Four Office Statistics Report

2009 EDITION



Four Office Statistics Report 2009 Edition

European Patent Office,
Japan Patent Office,
Korean Intellectual Property Office,
United States Patent and Trademark Office

Edited by KIPO, Dae-jeon, October 2010

Preface

From 1985 to 2008, the European Patent Office (EPO), the Japan Patent Office (JPO), and the United States Patent and Trademark Office (USPTO), which are commonly referred to as the Trilateral Offices in the patent community, jointly produced the Trilateral Statistical Report (TSR). Collaboration between the Trilateral Offices has proved to be successful in the area of patent statistics. Since the 2008 edition, the TSR expanded to become the “Four Office Statistics Report (FOSR)” with the inclusion of one additional major player in the worldwide intellectual property (IP) activity, the Korean Intellectual Property Office (KIPO). KIPO is the editor of this 2009 edition.

This is an annual compilation of patent statistics. In addition to promoting a better understanding of the importance of patenting in the world, 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 Four Offices. The FOSR supplements annual reports for each of the Four Offices and also presents specific statistics that are collected by the International Bureau of the World Intellectual Property Organization (WIPO) and as available in publications databases.

Applications for patents among the Four Offices slightly decreased in calendar year 2009. Together the Four Offices experienced a 5 percent decrease in patent applications compared to 2008. At the USPTO, the total patent application filings in 2009 were almost the same as those in 2008. On the other hand, there was a decrease by 8 percent at EPO, by 11 percent at JPO, continuing a declining trend, and by 4 percent at KIPO. JPO had the highest proportion of domestic filings at almost 85 percent. The proportion of domestic filings at EPO was 51 percent, at KIPO was 78 percent and at USPTO was 48 percent. In terms of fields of technologies, Electricity represents the highest share at each Office except for USPTO, and Textiles, paper represents the lowest. The Four Offices granted a combined total of 469 399 patents in 2009, which is a 2 percent decline from the 479 951 patents granted in 2008. The JPO and USPTO granted approximately 9 and 5 percent more patents in 2009 than in 2008, while EPO and KIPO experienced a significant decrease.

There seem to be diverse factors that influence patent filing trends. In the past, the major causes were changes in patent rules and fees. As the economy has become considerably more important in patent activities, the co-relation between the economy and patent filings is now becoming more obvious. For example, according to the *World Economic Outlook* of the International Monetary Fund, the global economic crises of 2009 caused negative growth¹ and thus seem to lead a decrease in patent filings. Nonetheless, a quantitative interpretation of worldwide patenting activity in terms of how it is specifically affected by economic factors is not easy. Other factors, such as political and technological considerations, need to be considered as well.

It was already mentioned above that there were some declines in numbers of patent filings in 2009. But previous downturns in the world economy have usually led to very mild corrections in the upward path of patent demand. On this basis we can expect that the demand for patents will grow again soon.

¹ *World Economic Outlook*, April, 2010, IMF.

Globalisation of markets and production continue to be key business trends. There is a worldwide tendency to harmonise patent laws towards common international standards and to stimulate the flow of patent applications across borders. This has had a positive impact on worldwide patent growth over recent years.

The Four Offices hope that the report brings useful information to the reader. The Offices will continue to improve and to refine the report to better serve expectations and objectives of the public. The report is also available on both the Trilateral Co-operation web site² and via a link from the new statistics pages at the Five IP Offices web site³. Material can be freely reproduced in other publications but we request that this should be accompanied by a reference to the title and web site location of this report. An additional annex appears in the web version that gives a glossary of patent related terms, and there is also a file that contains statistics from the report over a greater number of previous years.

EPO, JPO, KIPO and USPTO
With co-operation of WIPO
October 2010

² <http://www.trilateral.net/statistics/tsr.html>

³ <http://www.fiveipoffices.org/stats.html>

Table of contents

Chapter 1: Definition of terms	1
Chapter 2: The Four Offices	6
European Patent Office	7
Japan Patent Office	12
Korean Intellectual Property Office	15
United States Patent and Trademark Office	18
Chapter 3: Worldwide patenting activity	22
Patent filings	23
First filings	26
Patent applications	27
Demand for patents rights	29
Patent grants	32
Interbloc activity	34
Chapter 4: Patent activity at the Four Offices	39
Patent applications filed	40
Fields of technology	42
Patents grants	44
Patent procedures	49
Statistics on procedures	52
Chapter 5: The Four Offices and the Patent Cooperation Treaty	54
The PCT as filing route	55
PCT grants	58
Patent families and PCT	59
PCT authorities	62
Chapter 6: Other work	65
Annex 1: Definitions for Offices expenditures	66
Annex 2: Definitions for statistics on procedures	71
Acronyms	75

Tables

Table 2.1	EPO production information	8
Table 2.2	JPO number of patent examiners	13
Table 2.3	JPO production information	13
Table 2.4	KIPO production information	16
Table 2.5	USPTO production information	20
Table 3	Numbers of patent families	36
Table 4	Statistics on procedures	53
Table 6	Statistics on other work	65

Graphs

Fig. 2.1	Patents in force at Four Offices in 2008	6
Fig. 2.2	EPO expenses 2009	11
Fig. 2.3	JPO expenditures 2009	14
Fig. 2.4	KIPO expenditures 2009	16
Fig. 2.5	USPTO expenditures 2009	21
Fig. 3.1	Worldwide patent filings by filing procedure	23
Fig. 3.2	Worldwide patent filings by bloc of origin	24
Fig. 3.3	Proportion of worldwide filings made in the bloc of origin	25
Fig. 3.4	First filings by bloc of origin	26
Fig. 3.5	Worldwide patent applications by filing procedure	27
Fig. 3.6	Worldwide patent applications by bloc of origin	28
Fig. 3.7	Worldwide demand for national patent rights	29
Fig. 3.8	Worldwide demand for national patent rights by bloc of origin	30
Fig. 3.9	Worldwide demand for national patent rights by filing bloc	31
Fig. 3.10	Patents granted in each bloc	32
Fig. 3.11	National patent rights granted in each bloc	33
Fig. 3.12	Flows of applications between blocs in 2008	34
Fig. 3.13	2005 first filings used for applications abroad	35
Fig. 3.14	Trilateral patent families by bloc of origin	37
Fig. 3.15	Four Blocs patent families by bloc of origin	38
Fig. 4.1	Domestic and foreign applications filed	40
Fig. 4.2	Proportions of applications per bloc of origin	41
Fig. 4.3	Proportions of applications per fields of technology	42
Fig. 4.4	Proportions and origin of high tech applications	43
Fig. 4.5	Patents granted by the Four Offices	44
Fig. 4.6	Proportion of granted patents per bloc of origin	45
Fig. 4.7	Distribution of patentees by number of patents granted	46
Fig. 4.8	Survival Ratio of National Patent rights granted by the Four Offices	48
Fig. 4.9	Four Offices patent procedures	49
Fig. 5.1	Proportions of applications filed via the PCT by bloc of origin	55
Fig. 5.2	Proportions of PCT applications entering the national/regional phase	56
Fig. 5.3	Proportions of PCT applications in the grant procedure	57

Fig. 5.4	Proportions of PCT in the patents granted	58
Fig. 5.5	Use of the PCT among families in 2005	59
Fig. 5.6	Use of the PCT among Trilateral families	60
Fig. 5.7	Use of the PCT among Four Blocs families	61
Fig. 5.8	Receiving Offices	62
Fig. 5.9	International search requests	63
Fig. 5.10	International preliminary examination demands	64

Chapter 1

DEFINITION OF TERMS

There are various types of IP protection. These include:

- Patents of invention
- Utility model patents
- Industrial design patents
- Trademarks

This report concentrates on patents of invention.

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

- National procedures,
- Regional procedures (for example the European, Eurasian, African Intellectual Property Organizations, or Gulf Cooperation Council),

and the
- International PCT procedure.

Although regional and international patenting procedures exist, patent law varies from country to country. With differing regulations and procedures, patent applications can have a different scope from place to place, e.g., with respect to the average number of claims included in one application. These variations limit the ability to compare patents between countries.

While applications filed under national procedures are handled immediately 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. Then after about 30 months from first filing, they enter the national/regional phase to be handled as national or regional applications in each designated Office. Reference is made to "direct" applications as opposed to "PCT" applications in order to distinguish the two subsets of applications handled by patent Offices.

In this chapter, the statistics presented in the report and the relations between them will be briefly described. With the exception of some items presented in Chapter 6, all statistics relate to patents of invention only.

Statistics are presented in accordance with the following definitions:

- Domestic applications are defined as all demands for patents made by residents of the country where the application is filed⁴. For the purpose of reporting statistics for the EPC contracting states (see below) considered as a bloc, foreign applications are given with regard to the applications made by residents from outside the EPC bloc as a whole. 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 are applications filed without claiming the priority⁵ of another previous filing, and all other applications are subsequent filings. They are usually made in the home country. The subsequent filings should be made within one year of the 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 filings⁶, and that PCT filings are subsequent filings.
- As a group, EPO, JPO, KIPO and USPTO are referred to as the “Four Offices” and this term is affixed to the words used for things related to the these Offices. In addition, the term "Trilateral" refers to EPO, JPO, and USPTO as a group.
- Five geographical blocs are defined:
 - The EPC contracting states (EPC states in this report) corresponding throughout the period covered to the territory of the 36 states party to the European Patent Convention (EPC) at the end of 2009,
 - Japan (Japan),
 - the Republic of Korea (R. Korea in this report),
 - the United States of America (U.S. in this report),which are referred as “Four Blocs”, and
 - the rest of the world (Others).

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 protection is considered principally by counting each national, regional or international application once only. However, alternative representations are also given in some places in terms of the demand for rights, after cumulating the number of designated countries over applications.

⁴ At the USPTO the country of residence is determined by the residence of the first named inventor. At EPO, JPO and KIPO the country of residence is determined by the residence of the first named applicant.

⁵ See the Article 4A to 4D of the Paris Convention at the WIPO web site; www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf

⁶ 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. The data source used for patent families allows a precise count of first filings.

Direct applications (not PCT) are counted in the year they are filed.

PCT applications are usually counted in the year that they enter the national (or regional) phase. In some parts of this report they are counted in the year of filing in the earlier international phase⁷.

- Grant counts are based on the WIPO Industrial Property Statistics series⁸. They are counted in the year that the grants are issued or published. As for the demand for patent protection, the rights granted are considered after cumulating the number of designated countries for which rights have been granted via regional procedures.
- 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 report, Trilateral Patent families are a filtered subset of patent families for which there is evidence of patenting activity in all the Trilateral blocs. In addition, Four Blocs patent families are a filtered subset of patent families for which there is evidence of patenting activity in all Four Blocs⁹.

Further definitions for statistics on procedures are given in Annex 2. Definitions of patent related terms can be found in the glossary located in the web annex¹⁰.

Chapter 2

In this chapter, a summary of the recent developments in the Four Offices is presented. Further information on budget item definitions is given in Annex 1.

Chapter 3

This chapter provides an assessment of the development of worldwide patent activity. Statistics are derived primarily from the Intellectual Property Statistics of WIPO¹¹, as collected from each country and region. Patent statistics are sometimes retrospectively updated, so 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.

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

⁷ 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 follows on from the corresponding international phase PCT filing and is made up to 30 months after the first filing if the applicant decides to do so.

⁸ <http://www.wipo.int/ipstats/en/statistics/pct/index.html>

⁹ For discussion of patent families in general see the OECD working paper "Insight into different types of patent families", by C. Martinez, /www.oecd-ilibrary.org/oecd/content/workingpaperseries/18151965

¹⁰ <http://www.trilateral.net/statistics/tsr.html>

¹¹ This edition refers to WIPO data as of April 2010.

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.

This chapter provides some indication of the interdependency and importance of the major geographical markets. The total number of applications filed worldwide is given first. Next, there is a discussion of bloc-wise patent activity (first filings, origins of applications, targets of applications, patent grants). This is followed by a description of inter-bloc activity, firstly in terms of the flows of applications between the Four Blocs, and then in terms of patent families.

Chapter 4

This part of the report considers the substantive activities of the Four Offices.

Statistics are given for applications filed with the Four Offices from each filing bloc, also showing domestic and foreign filings. 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. Part of the demand for patents in the EPC states is processed through the national Offices and is not considered in this chapter. The demand at the EPO is given in terms of applications rather than in terms of designations.

Statistics are provided on the breakdown of applications by fields of technology according to the International Patent Classification (IPC)¹².

The filing of patent applications represents demands for services from patent Offices, but the 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 comparison of Offices. Some indication of the services that have actually been demanded can be provided using statistics on granted patents. To illustrate the similarities as well as the differences in the granting procedures at the Four Offices, comparisons of the characteristics and statistics of the four patent granting procedures are given in the last part of the chapter.

Further analyses of patent grants are provided, broken down by the blocs of origin of the grants and the distributions of numbers of grants per applicant. In Chapter 4, the numbers of grant actions by the Four Offices themselves are described. It should be remembered that each grant action by the EPO can lead to as many national patents as the number of EPC states that had been designated.

Chapter 5

This chapter shows how the PCT influences patenting activities, particularly at the Four Offices. PCT work includes the actions required by each Office for PCT applications in the international phase as Receiving Office (RO), International Searching Authority (ISA) and International Preliminary Examining Authority (IPEA).

¹² <http://www.wipo.int/classifications/ipc/en/>

Most of the data were obtained from the WIPO Statistics, as explained above regarding Chapter 3.

Chapter 6

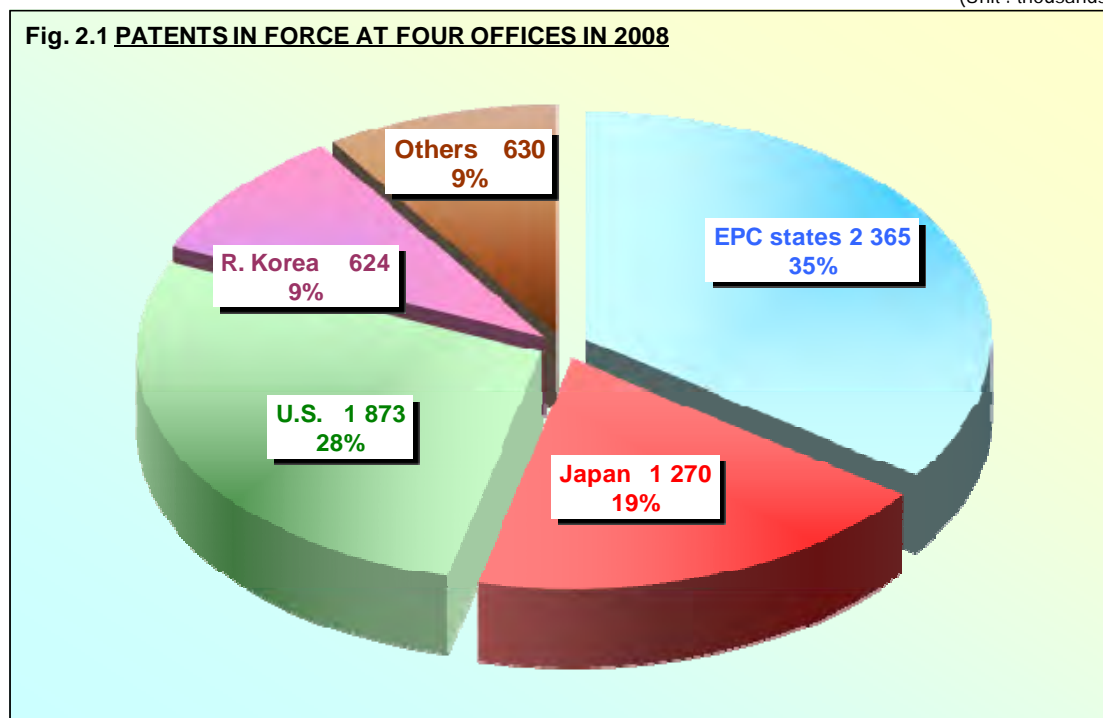
This chapter is dedicated to the other activities that are not common to all of the Four Offices, as well as work related to other types of industrial property rights.

Chapter 2

THE FOUR OFFICES

Patents are recognized throughout the world as a measure of innovative activity. The EPO, JPO, KIPO and USPTO are among the largest IP Offices in terms of the volume of patent applications they handle. The following figure shows the prominent role played by the Four Offices in terms of the numbers of patent in force at the end of 2008.

(Unit : thousands)



Based on the most recent information on worldwide patents available from the WIPO Patent Statistics and from some other Offices, it appears that at the end of the year 2008, 91 percent of the 6.8 million patents in force¹³, were valid in the Four Offices jurisdictions.

¹³ Data for 2008 are missing for some countries in WIPO data, in which case data for 2008 in each annual report of such countries or WIPO data for 2006 or 2007 were substituted as the best available estimates for 2008.

EUROPEAN PATENT OFFICE

The EPO, the main patent granting authority for Europe, is an example of economic and political cooperation, providing patent protection at the end of 2009 in up to 39 European countries on the basis of a single patent application and a unitary grant procedure. The EPO receives currently more than 50 percent of all the patent applications filed in the area of the EPC contracting states.

At the end of 2009, the 36 members of the underlying European Patent Organisation were:

Austria	Belgium	Bulgaria	Croatia	Cyprus
Czech Republic	Denmark	Ellas	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	Sweden	Switzerland	Turkey
United Kingdom				

Other states have agreements with the EPO to allow applicants to request an extension of European patents to their territory. At the end of 2009, such extensions of European patents could be requested for:

Albania Bosnia-Herzegovina Serbia.

Together, the above states build a market of about 605 million people.

On May 1, 2010, Albania became the 37th member of the European Patent Organisation. On October 1, 2010, Serbia became the 38th member of the European Patent Organisation.

On March 1, 2010, an extension agreement with Montenegro entered into force.

Grant Procedure

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, particularly by granting European patents. The EPO also acts as a receiving, searching, and examining authority under the PCT. A further task is to perform, on the behalf of patent Offices of certain member states, state of the art searches for the purpose of national procedures and to carry out searches at the request of third parties.

In 2009, the EPC regulations were amended to require as from January 1, 2011, applicants to provide the EPO with search results from national patent Offices within the European Patent Network.

To keep the European patent system fit for purpose in the long term, the EPO prepared a set of adjustments to be implemented as from Spring 2010. The aim is to enhance the quality of incoming applications, to improve the coordination between search and substantive examination and to tighten some time limits. On the longer perspective, further projects are elaborated to affect the patent system in its global dimension, in cooperation with European and non-European patent Offices.

The EPO felt the effects of the worldwide economic recession in 2009. The number of filed applications decreased markedly compared to 2008. 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 2008 and 2009.

In 2009, the Office production increased substantially. The number of searches completed increased by 9 percent to about 203 500. While the examination work under the PCT further reduced, the number of final actions in examination at EPO increased by 2 percent to about 102 200. However, as will be shown below in Chapter 4, this did not coincide with an increased number of grant actions. In 2009, about 1 980 decisions in appeal were completed (9 percent more than in 2008). On average in 2009, a patent granted by the EPO was designating 19 countries (17 in 2008).

Table 2.1: EPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2008	2009
Patent filings (Euro-direct & PCT international phase)	226 319	211 324
Searches carried out		
European (including PCT supplementary)	87 667	99 105
PCT international	82 063	81 463
On behalf of national Offices and other	17 104	22 941
Total production search	186 834	203 509
Examination - Opposition (final actions)		
European examination	99 053	102 178
PCT Chapter II	10 430	9 601
Oppositions	1 982	2 314
Total final actions examination-opposition	111 465	114 093
Appeals settled		
Technical appeals	1 737	1 893
PCT protests	45	25
Other appeals	67	61
Total decisions	1 849	1 979

Documentation

The EPO main database publicly available for search, esp@cenet, was further expanded in 2009 to include 69 million documents from 96 countries and patent authorities. To date, 96 million documents for both patent and non-patent literature are now accessible.

The EPO citation database currently contains more than 97 million references relating to 13.5 million applications or publications. Quality control resulted in 700 000 corrections in 2009, related to 9.7 million cited documents.

The bibliographic database was augmented with more than 3 million documents to 70 million and around one million corrections were made.

The electronic filing tool epline® continued to become increasingly popular with its users. In 2009, 60 percent of European applications were filed online.

Patent Information

EPO is a producer of patent information products and services and has set up databases that are available not only for internal use, but also for dissemination by national Offices.

The various EPO patent information products were improved and expanded to cover more data and to offer more functionalities. A new product, Global Patent Index, went into production. It supersedes the previous products that had effectively restricted the on-line search tools. The old products were stopped at the end of 2009.

International Cooperation

EPO is engaged in different types of co-operation programmes.

During 2009 and in partnership with the European Union (EU), two new projects were launched to strengthen IP system in candidate and potential candidate countries to the EU. The EU-China IPR2 project continued to support IP dialogue between the EU and China. In September an EU-funded co-operation project with Russia was launched to support closer economic relations between Russia and the EU.

The Five IP Offices have set up a governance structure of their joint initiative on changes to the global patent system. Ten cooperative Foundation Projects have been launched and will be run by three working groups. The existing Trilateral Cooperation will run in parallel to the Five IP Offices cooperation, at least in the short term. There has been further progress on the Patent Prosecution Highway (PPH) projects, which have expanded to include requests based on PCT international work.

EPO Budget

EPO is financially autonomous and makes its financial statements since 2006 in accordance with International Financial Reporting Standards (IFRS). Expenses are to be covered entirely out of revenue, mainly from patent fees paid by applicants and patentees.

Fees related to the patent grant process, such as filing, search, examination, appeal fees as well as renewal fees for European patent applications (i.e. before grant) are paid to EPO directly. Renewal fees for European patents (i.e. after grant) are collected by the designated contracting states and determined by national law. From these renewal fees, 50 percent is kept by the national Offices and 50 percent is transferred to EPO.

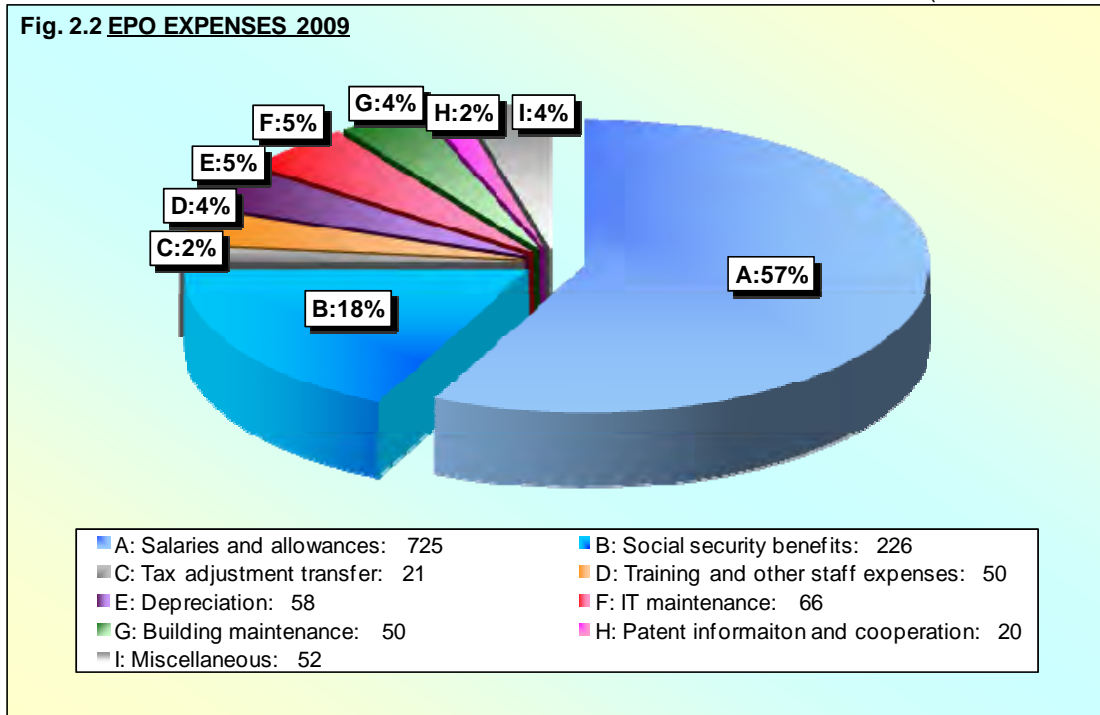
Under IFRS, procedural fees are not recorded automatically as revenue in the accounting year in which they are received, but instead are treated as deferred income, to be included as revenue in the year during which the relevant task is actually performed. A similar concept is applied also for all other types of income. In 2009, the total operating income amounted to EUR 1 288 million.

On the expenditure side, in addition to salaries and allowances, staff expenses include entitlements for post-employment social benefits as far as these are built-up during the accounting year, including pensions as well as sickness and long-term care costs.

In conformity with IFRS, all expenses were recorded following the accrual principle, irrespective of whether or not cash disbursements took place in the period under consideration. For the same reason, depreciation for buildings, IT equipment and other tangible and intangible assets are shown under expenses. Operating expenses totalled EUR 1 268 million.

The financial result was negatively affected by the turmoil on the financial markets and closed with a deficit of EUR 93 million.

(Unit : Million EURO)



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

EPO Staff

In 2009, 220 employees were recruited of which 170 were examiners. By the end of the year, the staff complement reached a total of 6 818, including 3 969 examiners in search, examination, opposition, and 155 members of Board of Appeal.

More information

Further information can be found on the EPO's Homepage:
www.epo.org

JAPAN PATENT OFFICE

Development of Intellectual Property Policy

The Intellectual Property Strategy Headquarters headed by the Prime Minister has drafted the “Intellectual Property Strategic Program 2009” in order to strengthen global IP competitiveness.

- Strengthening IP strategy to promote innovation
- Strengthening global IP strategy
- Enhancing growth strategy for soft power industry
- Securing stability and predictability of intellectual property rights (IPR)
- Building IP systems meeting user needs

JPO intends to implement relevant measures to promote and crystallize these five challenges in a comprehensive and unified manner.

Recent Improvements to Japan’s IP System

JPO has been implementing various measures in order to support applicants’ IP strategies such as acquiring patent rights regarding multiple aspects of products, acquiring patent rights rapidly and strategically from the global perspective. In order to promote the Research and Development (R&D) of green technology, the JPO added applications of “Green inventions” with effects such as energy saving and CO² reduction etc., as eligible applications for the accelerated examinations on a pilot basis, on November 1, 2009, while promoting utilization of the accelerated examination system continuously. Since January 2009, the Online Submission of Information became available, added to the previous system only for the submission of written information in order for the Submission of Information to be more easily used and thus its utilization further enhanced. Also, as an emergency measure for reducing corporate financial burdens in the recent recession, it was decided that the payment of examination request fees can be deferred, on and after April 1, 2009, provided that the payment should be made within one year from the date of request for examination and that the wish to make a deferred payment is shown on the examination request form.

Efforts related to Patents

JPO has been expanding the number of outsourcing prior-art searches to increase examination efficiency. Regarding maintenance and improvement of the quality of examination, each art unit at which applications of each technical field are examined strives to perform quality control of examinations by, for example, unifying the application of judgment standards between each examiner, and based on a concept of the quality management cycle (PDCA¹⁴ cycle), JPO sets a quality management system under which examination results are post-measured and analyzed objectively, and then the results are reflected on the next implementation plan to maintain and improve examination quality continuously.

¹⁴ PDCA means “Plan”, “Do”, “Check” and “Act”

Moreover, JPO has been enhancing international cooperation for patent examination through the Patent Prosecution Highway (PPH) and JP-First Information Release Strategy (JP-First).

Further efforts toward expeditious and efficient patent examination

JPO has employed 98 fixed-term patent examiners each fiscal year (FY)¹⁵ from FY2004 to FY2008, to give a total of 490 as of the end of FY2008, added to regular examiners. The number of the fixed-term patent examiners remained unchanged in 2009 and is to be kept for some more years.

Ahead of the other countries, JPO has established a paperless system for all procedures, from filing an application to receiving an examiner's decision. This enables active promotion of the world's first outsourcing of prior art searches to private sectors, enhancing efficiency to a significant degree.

Table 2.2: JPO NUMBER OF PATENT EXAMINERS

Examiners	FY 2008	FY 2009
Regular	1 190 (+15)	1 202 (+12)
Fixed-term	490 (+98)	490
Total	1 680 (+113)	1 692 (+12)

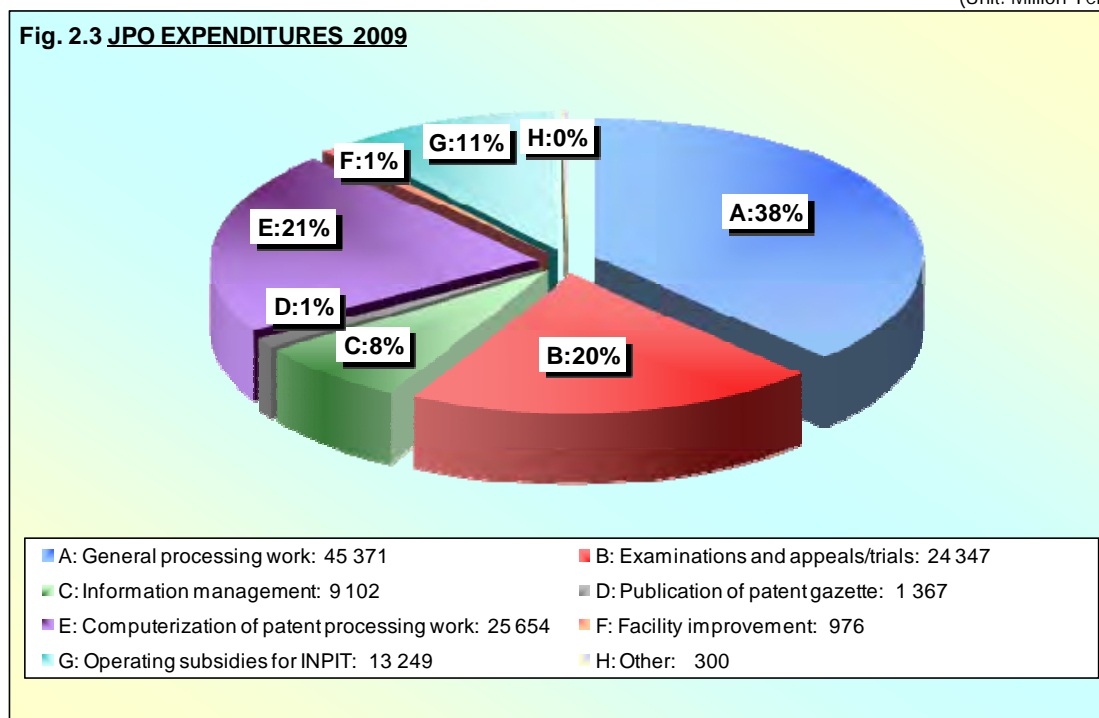
Table 2.3: JPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2008	2009
Applications filed		
Domestic	330 110	295 315
Foreign	60 892	53 281
Total	391 002	348 596
Examination		
Requests	347 836	254 368
First actions	342 654	361 439
Final actions	318 903	354 792
Grants		
Domestic	151 765	164 459
Foreign	25 185	28 890
Total	176 950	193 349
Appeals/Trials		
Demands for Appeal against examiner's decision of refusal	31 019	24 137
Demands for Trial for invalidation	292	257
PCT activities		
International searches	26 523	28 927
International preliminary examinations	2 321	2 173

¹⁵ The fiscal year time periods vary within the Four Offices. At EPO and KIPO the fiscal year begins in January. At JPO the fiscal year begins in April. At USPTO the fiscal year begins in October. Each Office's fiscal year lasts twelve months.

JPO Budget

(Unit: Million Yen)



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

JPO Staff Composition

As of the end of FY 2009, the total number of staff at JPO was a total of 2 904 staff. This includes 490 fixed-term patent examiners.

Examiners:	Patent / Utility model:	1 692
	Design:	52
	Trademark:	150
Appeal examiners:		387
General staff:		623
Total:		2 904

More information

Further information can be found on the JPO's Homepage:
www.jpo.go.jp

KOREAN INTELLECTUAL PROPERTY OFFICE

Mission Statement

The Korean Intellectual Property Office (KIPO) is the government agency in charge of IP matters in Korea. KIPO's mission statement is as follows:

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

KIPO strives to enhance technological innovation and industrial development by facilitating the creation, utilization, and protection of IP and by implementing diverse policies focused on timely, high-quality examinations.

Major Developments in 2009

In 2009, KIPO received 163 523 patent applications and the requests for international search soared from 735 in 2006 to 13 978 in 2009. At the same time, KIPO undertook various measures to make its IP system more customer-oriented. For instance, a set of revisions to the Patent Act, which came into effect in July 2009, simplified the patent procedures with the aim of enhancing convenience of customers.

KIPO also implemented various measures to ensure that its examination service is of the highest quality. For instance, to harmonize the examination standards with those of other major patent Offices, KIPO established 39 examination guidelines on the basis of a comparative study of the examination standards and practices of the five major IP Offices (EPO, JPO, KIPO, SIPO of P.R. China, USPTO).

International Cooperation

Laying the groundwork for expanded international cooperation on examinations has been another major objective KIPO focused on in 2009. Following the success of establishing a Patent Prosecution Highway (PPH) with the JPO in 2006 and with the USPTO in 2008, KIPO further implemented bilateral PPH agreements with Denmark, the UK, Canada, and Russia in 2009. KIPO also formed a partnership with the USPTO in implementing a project called Strategic Handling of Applications for Rapid Examination (SHARE). A one-year trial of the SHARE project commenced on September 1, 2009.

Intellectual Property Protection

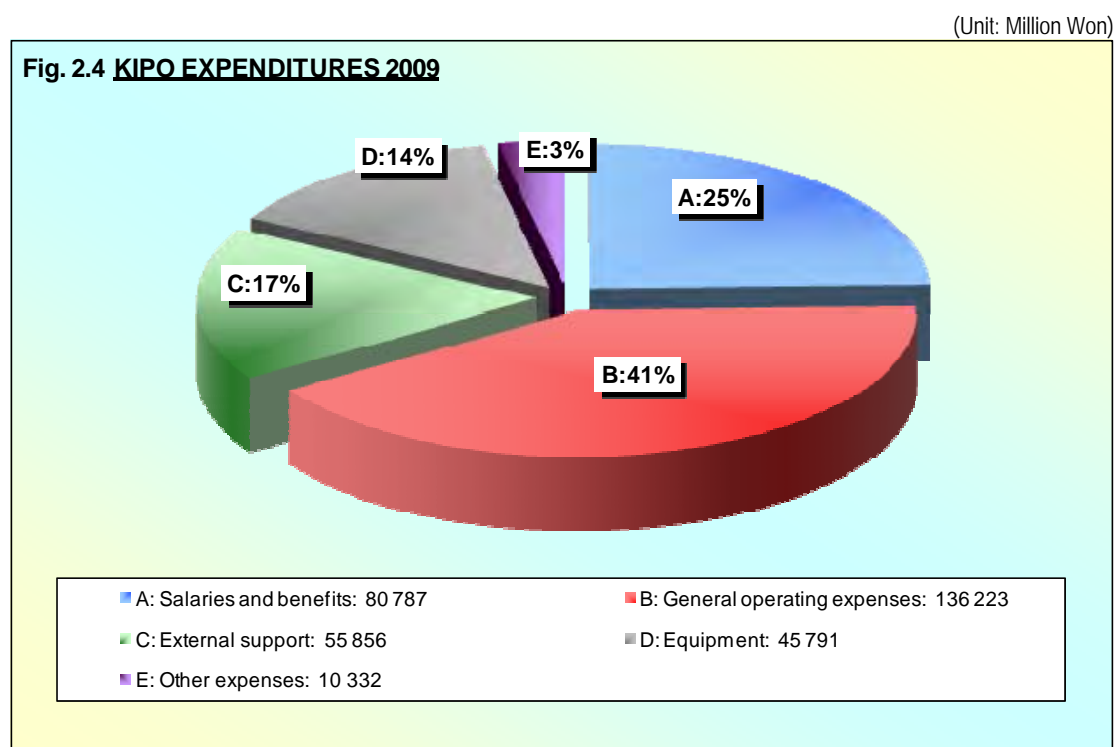
With stronger IP protection as a top priority, KIPO strengthened anti-counterfeiting measures in a variety of ways. For example, KIPO expanded the regional anti-counterfeiting Offices; implemented a system of monitoring online distribution of counterfeit goods; and conducted campaigns in conjunction with civic consumer groups to raise public awareness of IP issues and IP protection systems.

Table 2.4: KIPO PRODUCTION INFORMATION

PRODUCTION FIGURES	2008	2009
Applications filed		
Domestic	127 114	127 316
Foreign	43 518	36 207
Total	170 632	163 523
Examination		
Requests	143 916	132 773
First actions	95 504	94 300
Final actions	108 897	89 272
Grants		
Domestic	61 115	42 129
Foreign	22 408	14 603
Total	83 523	56 732
Applications in appeal		12 238
PCT activities		
International searches		12 936
International preliminary examinations		474
		362

KIPO Budget

In calendar year (CY) 2009, KIPO expenditures totalled 328 989 million won. Agency-wide, 25 percent of expenditures were allocated to salaries and benefits; 41 percent to general operating expenses; 17 percent to external support; 14 percent to equipment; and 3 percent was allocated to other expenses.



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

KIPO Staff Composition

At the end of CY 2009, the total staff at KIPO was 1 511. Patent examiner totalled 675; 33 design examiners; 88 trademark examiners; and appeal examiners totalled 99. Managerial, administrative and technical support staff totalled 616.

Examiners

Patents	675
Designs	33
Trademarks	88
Appeal examiners	99
Other staff	616
Total	1 511

More information

Further information can be found on KIPO's Homepage:
www.kipo.go.kr

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 the 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 (DOC), the primary services provided by 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 USPTO are vested in the Under Secretary of Commerce for Intellectual Property and Director of USPTO, who consults with the Patent Public Advisory Committee and the Trademark Public Advisory Committee. USPTO operates with two major business lines, Patents and Trademarks.

USPTO Strategic Plan

In 2009 the USPTO continued to implement the *2007-2012 Strategic Plan* that was formally released in March 2007. In support of the DOC’s strategic objective to “protect IP and improve patent and trademark systems,” the USPTO established three strategic goals and a management goal to guide its policies and operations:

- Goal 1: Optimize patent quality and timeliness.
- Goal 2: Optimize trademark quality and timeliness.
- Goal 3: Improve intellectual property protection and enforcement domestically and abroad.
- Management Goal: Achieve organizational excellence.

These goals and related objectives, initiatives, and performance measures were established with a focus on four guiding principles: quality, timeliness, cost-effectiveness, and transparency.

Patent Quality and Timeliness

High quality and timely examination of patent applications advances science and technology and creates the certainty innovators need in capital-driven markets. The USPTO works closely with the public and its stakeholders to find the best ways to ensure that the U.S. patent system continues to promote innovation and U.S. competitiveness in the global economy.

In 2009, the USPTO began to lay the groundwork for new measures to address its biggest challenge – dramatically reducing the time it takes to process patent applications. The USPTO will reduce first action pendency to 10 months and overall pendency to 20 months. Shortening pendency time is imperative to improve predictability and clarity in the patent system.

Despite the Agency’s financial challenges in 2009 and an increase in Patents of Invention (utility, plant, and re-issue) filings, the USPTO increased first action productivity which led to a 4 percent reduction in the overall backlog. Had funding been available to continue hiring and to allow overtime for patent examiners, that reduction in the backlog could have been much larger. The USPTO maintained a strong focus on quality while reducing the backlog, continued expansion of work sharing efforts such as the Patent Prosecution Highway, and began exploring a range of innovative concepts to address the timeliness challenge.

Intellectual Property Protection

The USPTO plays a leadership role in promoting effective domestic and international protection and enforcement of IPR by advocating U.S. Government IPR policy, working to develop unified standards for international IPR, providing policy guidance on domestic IPR issues, and fostering innovation. The USPTO advises the President and Federal agencies on national and international IPR policy matters and trade-related aspects of IPR, and conducts technical assistance and capacity-building programs for foreign governments seeking to develop or improve their IPR regulatory and enforcement mechanisms.

In 2009, the USPTO continued protecting IP and curbing IP theft by supporting other U.S. Government agencies in international negotiations and consultations; working to unify international IP practice through multilateral and bilateral efforts including increasing the number of work sharing partnerships with other IP Offices and establishing cooperative agreements for increased technical cooperation; giving domestic IP policy guidance; and delivering IP education worldwide through the USPTO Global Intellectual Property Academy.

Table 2.5: USPTO PRODUCTION INFORMATION

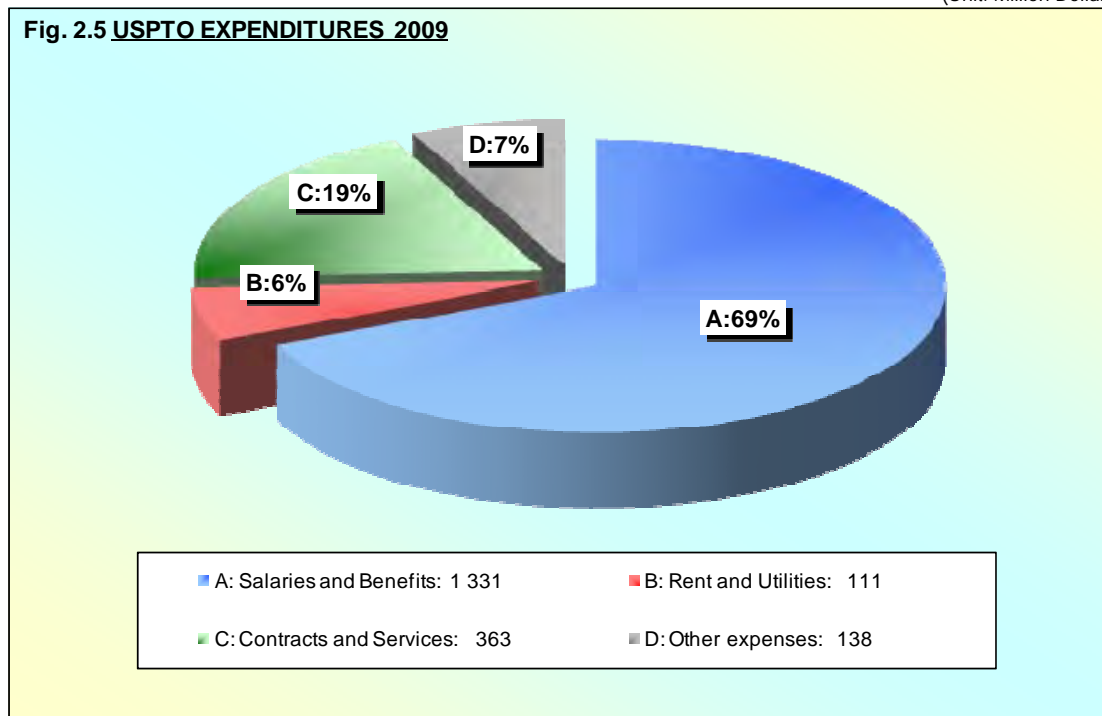
PRODUCTION FIGURES	2008	2009
Applications Filed		
Utility	454 270	456 437
Plant	1 209	959
Reissue	761	1 019
<i>Total Patents of Invention</i>	456 240	458 415
Design	27 782	25 806
Provisional	141 475	133 803
TOTAL	625 497	618 024
PCT Chapter I Searches	52 433	46 670
PCT Chapter II Examination	3 087	1 930
First Actions	436 947	466 403
Grants (Total)	161 563	167 349
U.S Residents	80 171	82 382
Foreign	81 392	84 967
Japan	33 912	35 501
EPC States	24 007	23 677
R. Korea	7 572	8 762
Others	15 901	17 027
Applications in appeal and interference proceedings		
Ex-parte Appeal Contested	7 550	14 773
Ex-parte Appeal Disposed	4 876	7 071
Inter-parte Appeal Contested	63	54
Inter-parte Appeal Disposed	74	60
Patent Cases in Litigation		
Cases filed	79	173
Cases disposed	62	73
Pending cases (end of calendar year)	63	167

USPTO Budget

USPTO utilizes an activity based information methodology to allocate resources in and indirect costs that support programs and activities within each of the three strategic goals. In FY 2009¹⁶, USPTO expenditures totalled \$1 864 million. Agency-wide, 13.1 percent of expenditures was allocated to information technology (IT) security and associated IT costs.

Goal 1 - Optimize patent quality and timeliness	\$1 635 million
Goal 2 - Optimize trademark quality and timeliness	\$185 million
Goal 3 - Improve IP protection and enforcement domestically and abroad	\$44 million

(Unit: Million Dollar)



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

USPTO Staff Composition

At the end of FY 2009, the total staff at the USPTO was 9 716. Patent examiner staff totalled 6 242; 6 143 Utility, Plant and Reissue examiners, and 99 Design examiners. Trademark examiner attorney staff totalled 388. Managerial, administrative and technical support staff totalled 3 086.

More Information

Further information can be found on the USPTO's Homepage:
www.uspto.gov

¹⁶ The period of USPTO's FY 2009 is from October 1, 2008 to September 30, 2009.

Chapter 3

WORLDWIDE PATENTING ACTIVITY

This chapter examines worldwide patent activities in terms of patent applications and grants. The statistics mostly cover the five-year period from 2004 to 2008. The effects of the recent worldwide recession in 2009 are therefore not visible in this chapter. More current and detailed data from the Four Offices are presented in Chapter 4. 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 granting.

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

Figures 3.1, 3.2, 3.3, 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, and PCT international filings.

Figures 3.5, 3.6 and 3.12 show the numbers of **requests for patents** as they entered a grant procedure. 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.

Figures 3.7, 3.8 and 3.9 show the equivalent numbers of **requests for national patents 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.

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

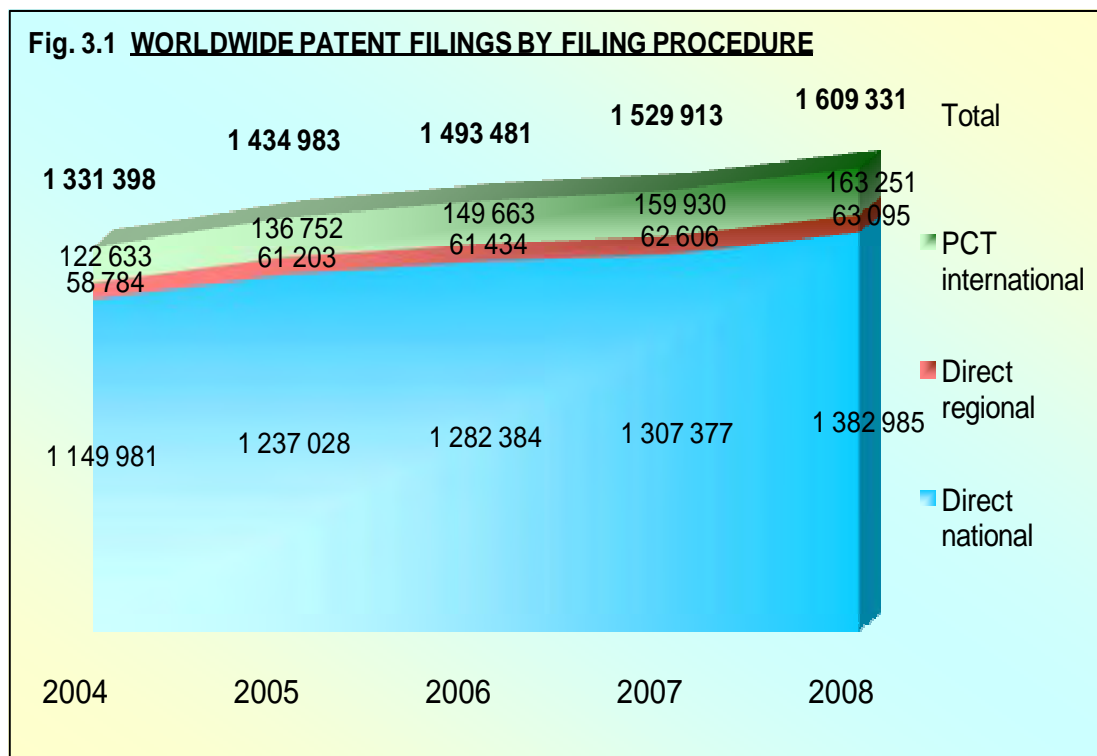
Regarding grants, Fig. 3.10 shows the numbers of **granted patents**. All grants are counted once only.

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 patenting.

PATENT FILINGS

This section shows the development of 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.

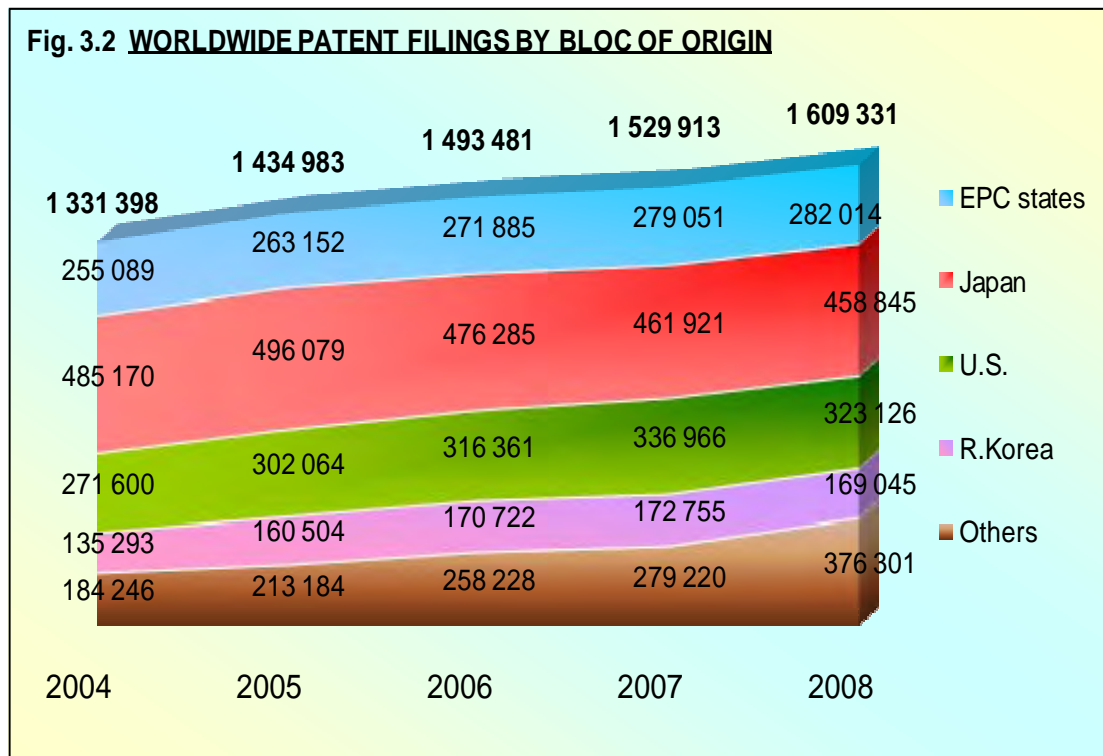
Fig. 3.1 shows the breakdown of the three types of applications filed.



The more than 1.6 million applications filed in 2008 represent a measure of the number of actions taken to assert IP rights around the world. This has increased by 5.2 percent since 2007. In 2008, 86 percent of these applications were filed according to national procedures but the continuing trend towards usage of regional systems, and in particular the PCT system, has contributed to the growth in filings.

Considering that not all the Offices report filing statistics on a regular basis, these data should be interpreted with care. It can at least be concluded that there was an increasing tendency to use the patent systems as a whole over the period.

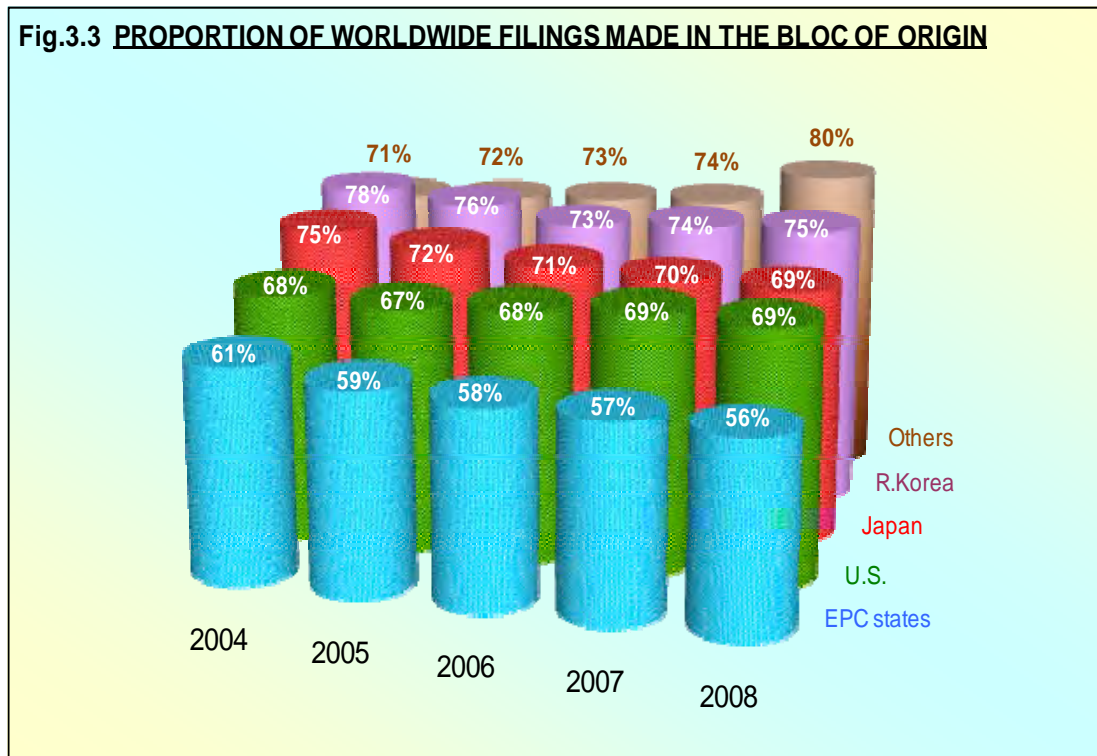
Fig.3.2 shows the origin of these applications.



The Four Blocs have consistently been the origin for more than 76 percent of patent filings in 2004 to 2008.

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

Fig. 3.3 shows the proportion of patent filings throughout the world that are filed at home by residents of each bloc.

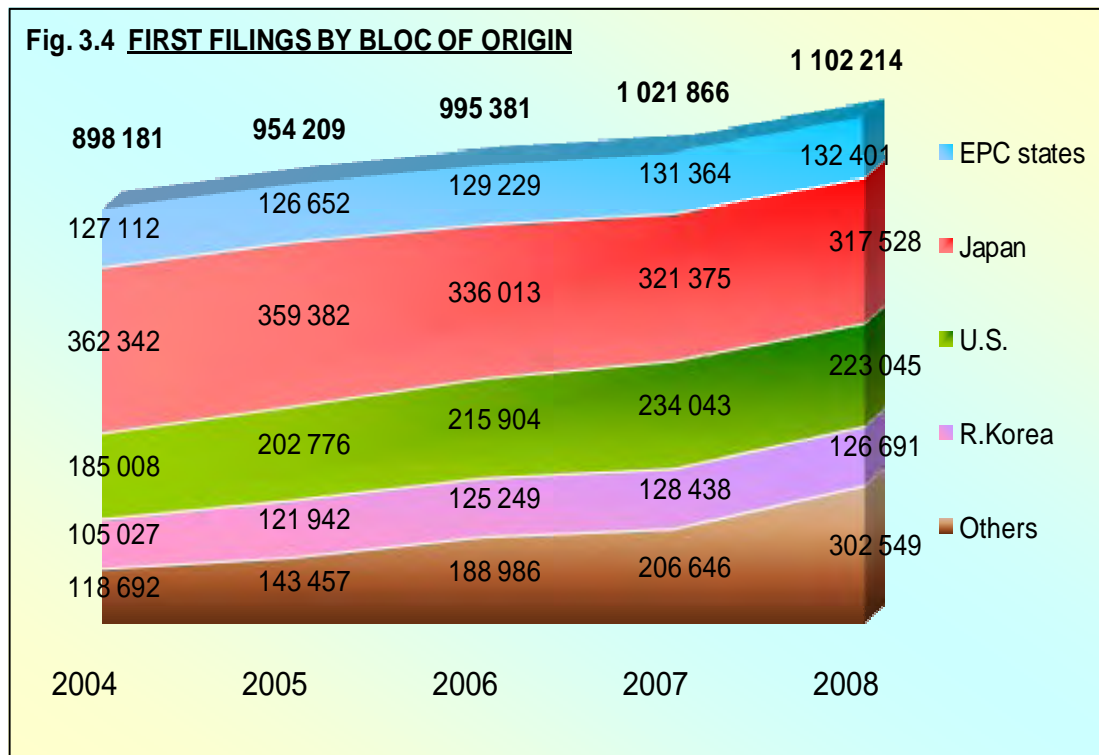


Worldwide around 70 percent of applications are made at home. This proportion is slightly decreasing which indicates the further internationalisation of the patent system. This is especially the case for Japan and EPC states¹⁷.

¹⁷ Due to a technical error, Fig. 3.3 of the FOSR 2008 edition showed wrong figures for “Others”.

FIRST 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. The development of first filings in the major filing blocs is shown in Fig. 3.4.



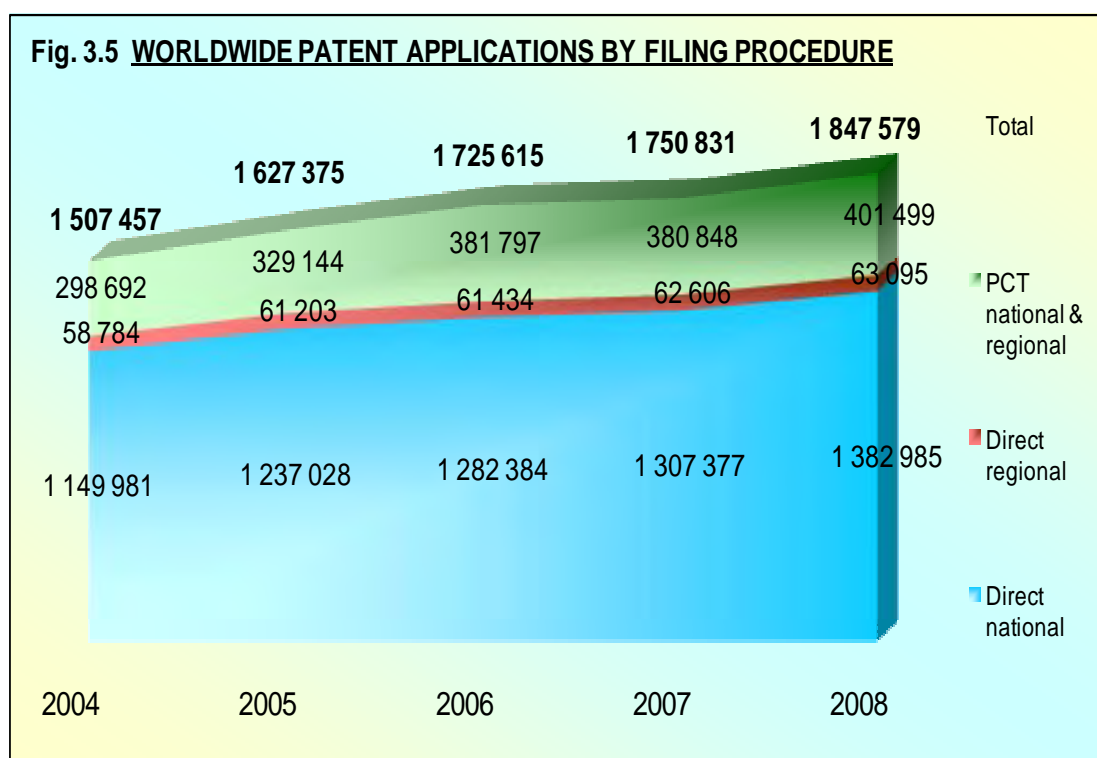
Japan recorded 317 528 first filings, the highest number of first filings by any bloc in 2008; although this was a decline of 1.2 percent from their 2007 total. In 2008, U.S. and R. Korea first filings decreased by 4.7 percent and 1.4 percent respectively, while EPC first filings increased marginally.

Statistics for “Others” showed an apparent 46 percent increase in first filings, but this was partially due to a larger number of Offices for which statistics are available for 2008.

PATENT APPLICATIONS

This section describes the development of the number of requests for patents that entered a grant procedure. Direct national and direct regional applications enter a grant procedure when filed. In the case of PCT applications this 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.

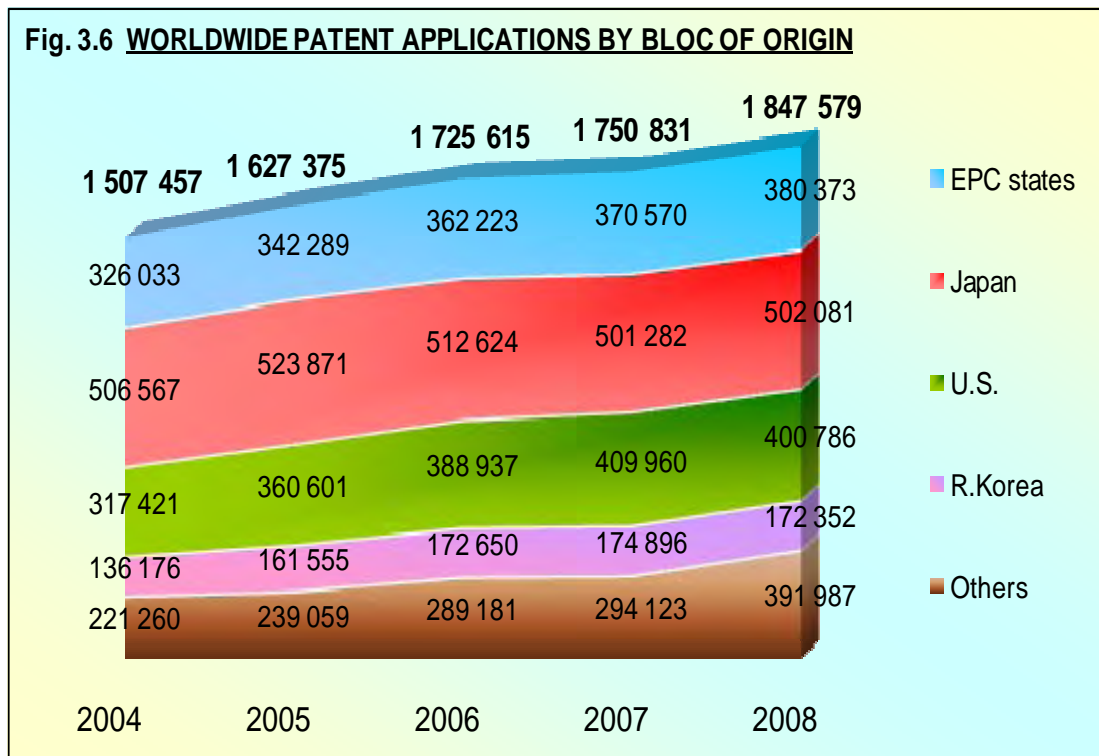
The development of worldwide patent applications by filing procedure is shown in Fig. 3.5.



From 2007 to 2008, the number of worldwide patent applications increased by 5.5 percent.

Since 2004, the number of filed applications grew at an average compound growth rate of 4.2 percent per year. Most of the applications were filed according to the direct national route (74.9 percent in 2008). The PCT national and regional route and the direct regional route accounted for a stable 21.7 percent and 3.4 percent respectively.

Fig. 3.6 shows the origin of these applications.



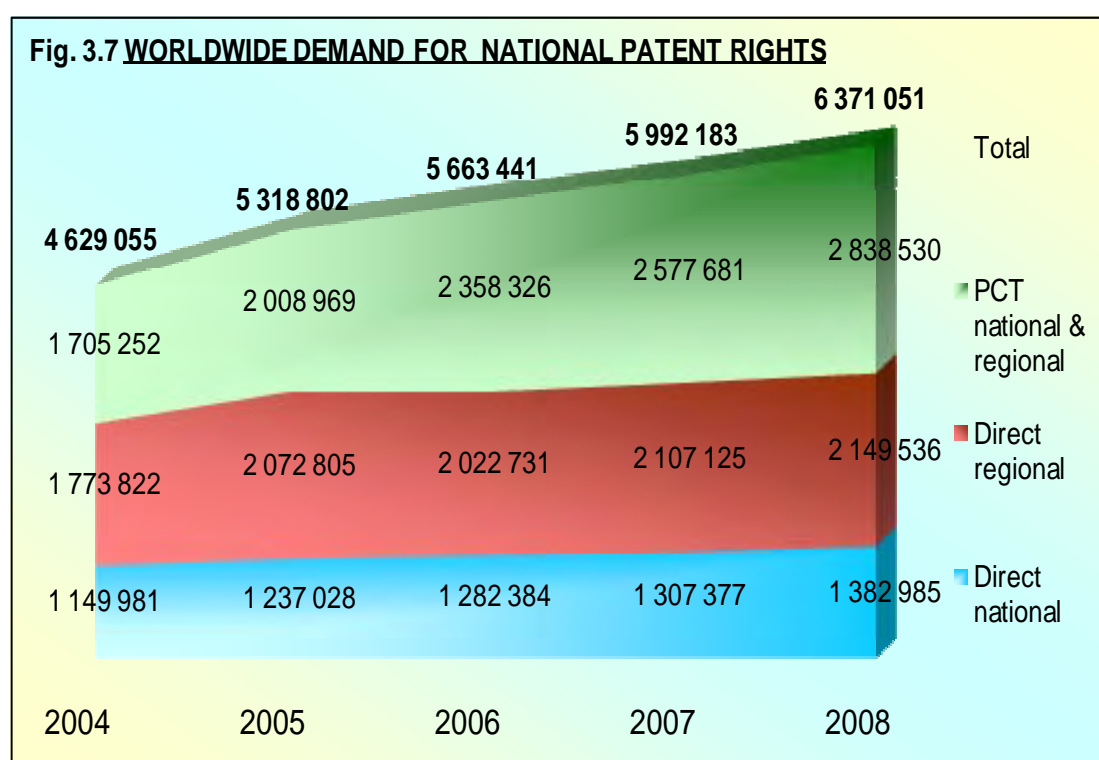
Japan remains the bloc from which the largest share of applications originate. The number of applications with U.S. origin and of those with Korean origin decreased in 2008. The numbers of applications from Japan or from the EPC states increased marginally compared to 2007.

These data should be interpreted with caution as the origin of the PCT applications entering national procedure is not reported in detail from all Offices.

DEMAND FOR PATENT RIGHTS

With an increasing use of international and regional systems, and also the increasing number of countries joining such systems¹⁸, the number of applications filed corresponds to far larger numbers of requests for national patent rights.

Fig. 3.7 describes the development of the demand for patents resulting from the applications filed as presented in the previous section. 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 requests for each and every individual member country. So, filing counts for regional Offices are expanded to cover the numbers of designated countries. This gives an estimate of the maximum number of patents that could be obtained later from the filed applications in the corresponding year.



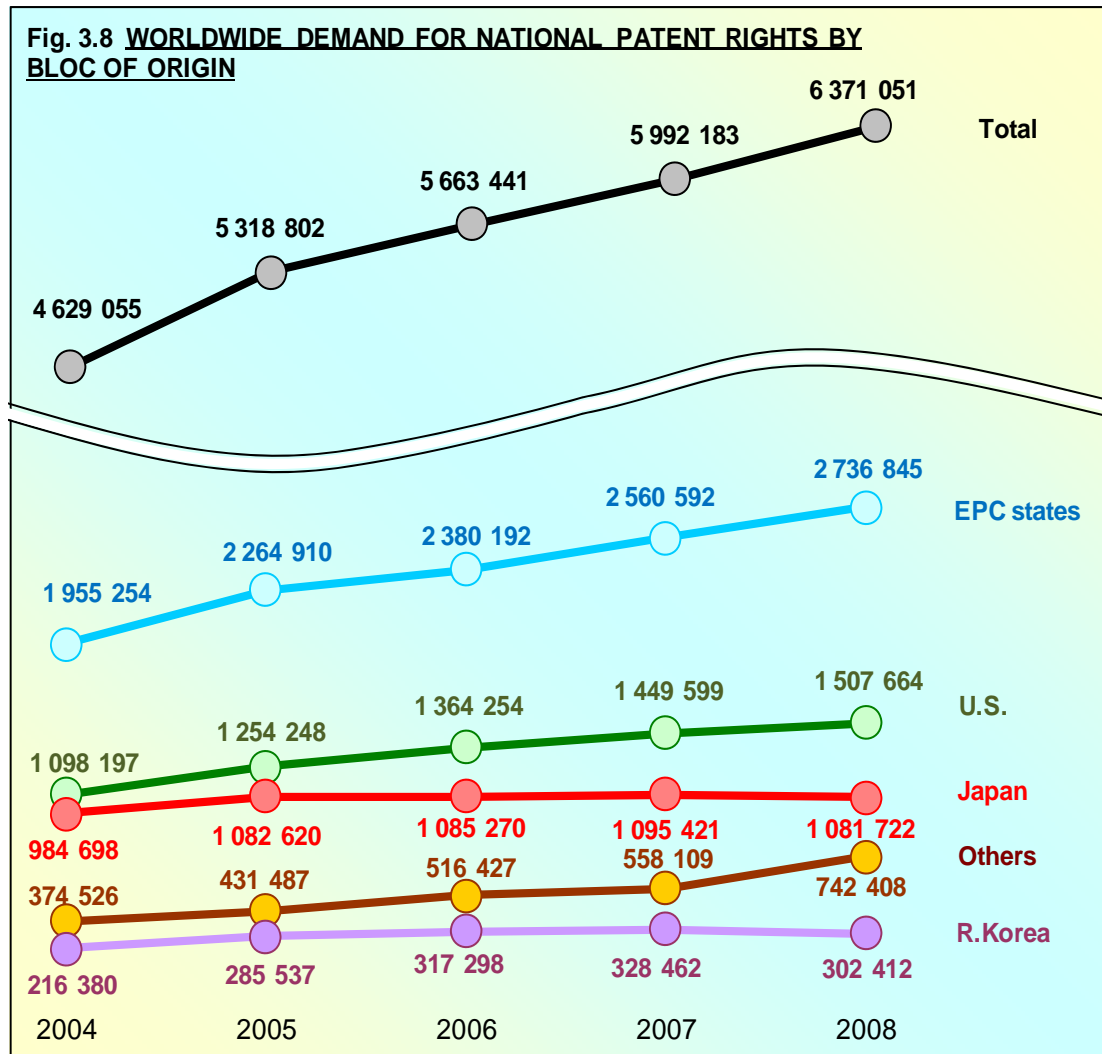
The sustained large growth over the five year period shows the effect of the centralized procedures (regional and international) to help users of the system to expand their patent protection with a limited number of procedures.

Fig. 3.4 showed that the total number of first filings in 2007 was 1 021 866. From these first filings, one year later in 2008, a comparison of Fig. 3.1 and Fig. 3.4 shows that 507 117 subsequent filings were filed (1 609 331 – 1 102 214). Thus on average each first filing led to almost 0.5 subsequent applications in the following year. However, a similar comparison with Fig. 3.5 shows that this corresponds to almost 0.7 subsequent applications entering a grant procedure, and Fig. 3.7 shows that it corresponds to 5.2 subsequent requests for patents throughout the world. This

¹⁸ At the end of 2009, 83 states were party to a regional patent system, and 142 to the PCT, compared to 73 and 124 respectively in 2004.

illustrates how the greater usage of the international and regional patent systems allows for a broader geographical coverage of protected inventions even while filing fewer applications worldwide.

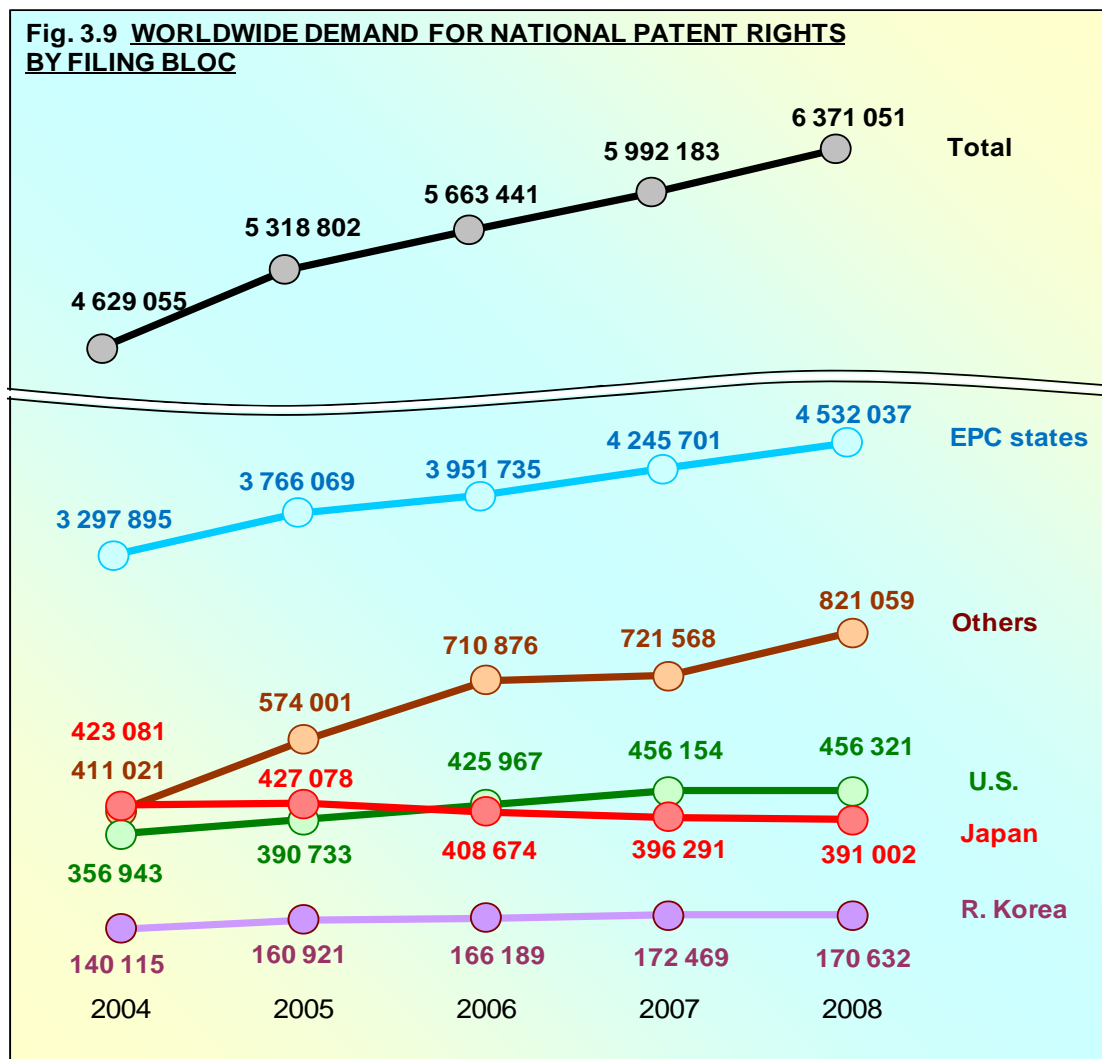
Based on the same data as Fig. 3.7, Fig. 3.8 shows the trend for the demand of patents by blocs of origin of the applicants.



From 2007 to 2008 the total worldwide demand for national patent rights increased by 6.3 percent. Demand from EPC states residents increased by 6.9 percent. U.S. residents increased their demand by 4.0 percent. Demand from R. Korea decreased by 7.9 percent; while the demand originating from Japan remained stable since 2005.

The total worldwide demand for national patent rights has increased at a compound growth rate of 6.6 percent per year from 2004 to 2008

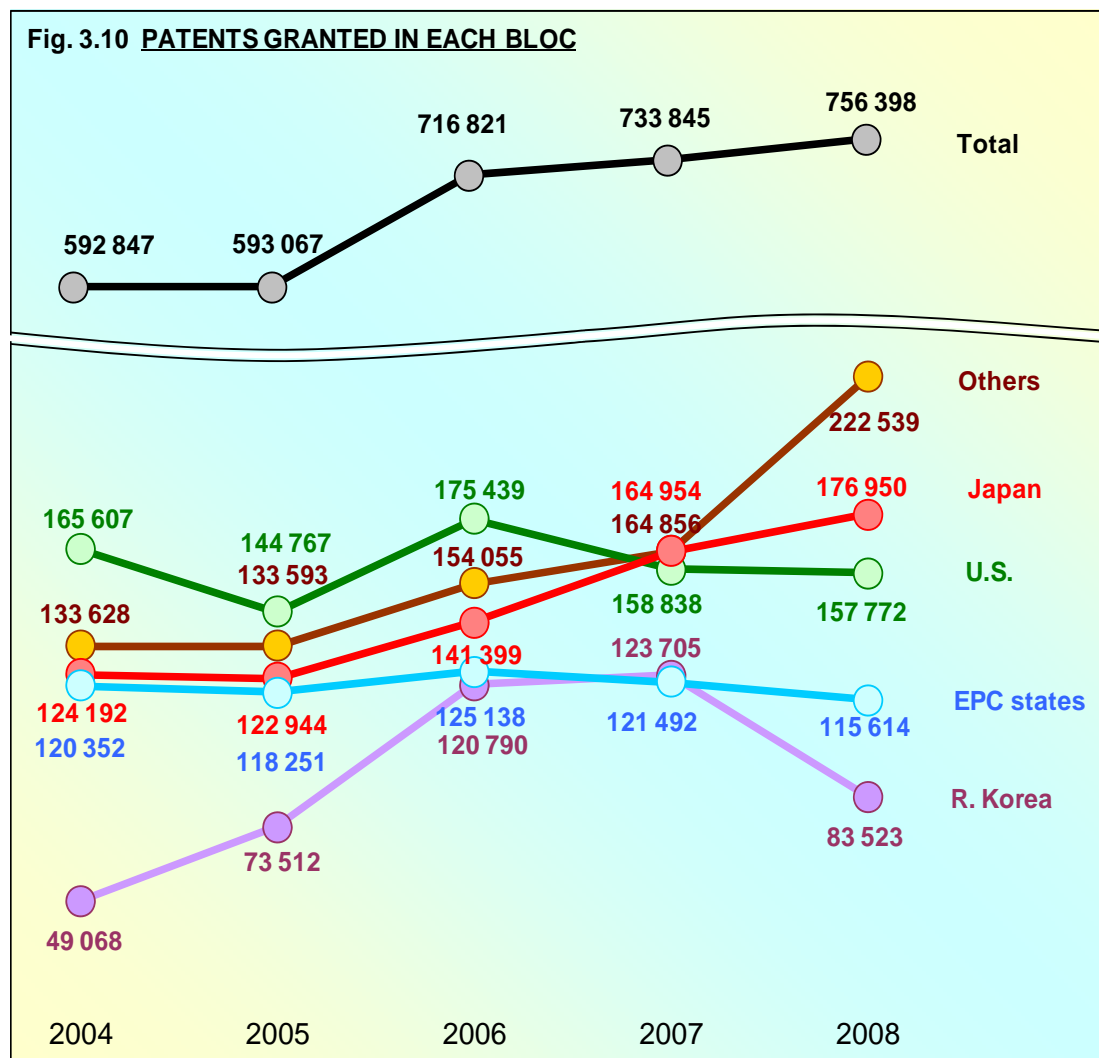
Fig. 3.9 shows the distribution of the demand for national patent rights according to the targeted regions. This graph is also related to the data described in Fig. 3.7 and Fig. 3.8.



This chart demonstrates the influence of regional patent systems on global demand for patents. Demand is particularly high in the EPC states as patent demand is replicated in each member state. It increased there by 6.7 percent from 2007 to 2008.

PATENT GRANTS

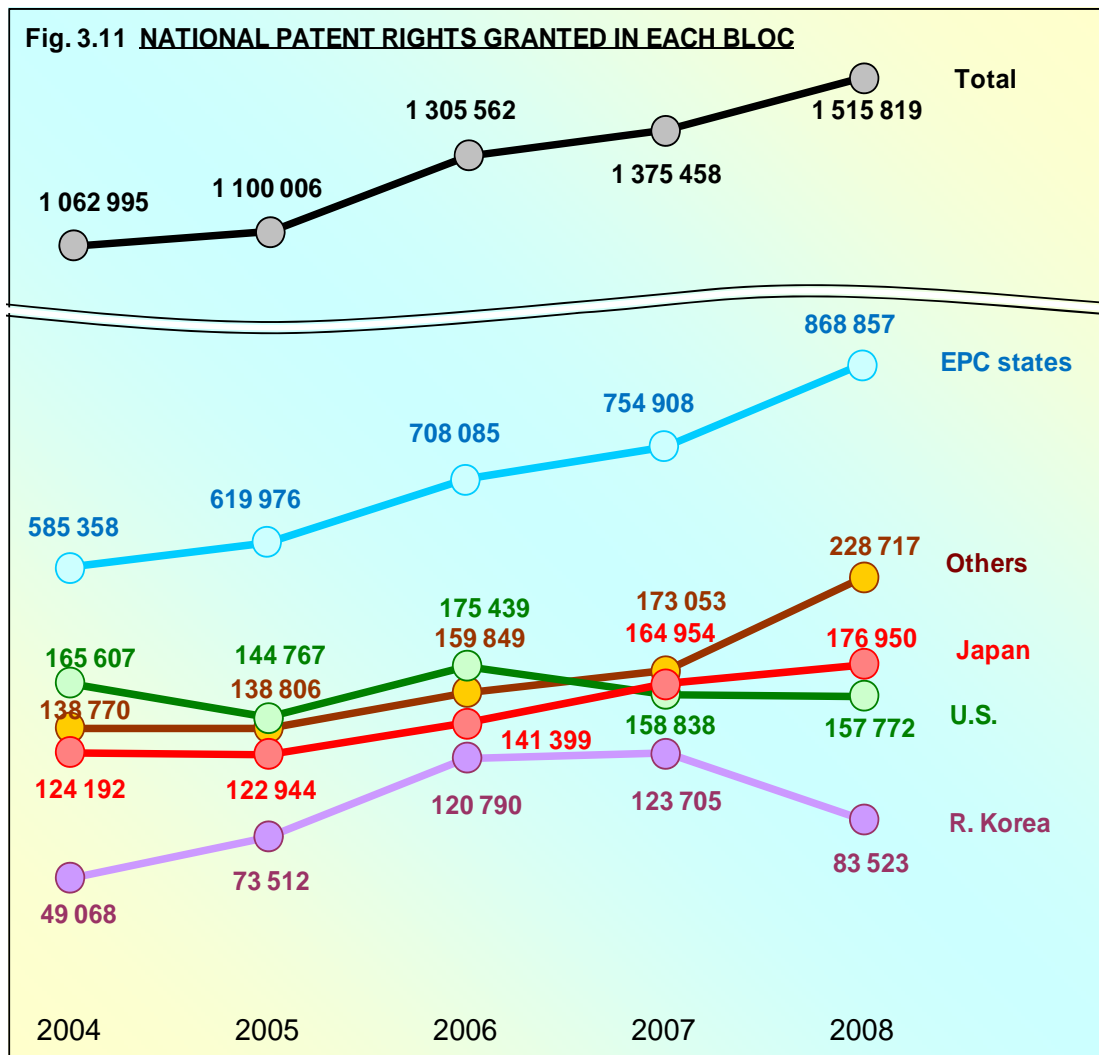
The development of the use of patent systems is shown next in terms of grants. Fig. 3.10 displays the cumulative numbers of patents granted by the various IP Offices.



The total number of patents granted in the world increased by 3.1 percent in 2008. The number of patents granted in the EPC states in 2008 decreased by 4.8 percent since 2007. The JPO increased grants by 7.3 percent in 2008. The USPTO granted 0.7 percent less patents in 2008 than in 2007. The number of patents granted at KIPO decreased by 32.5 percent in 2008.

The figures for “Others” should be compared with caution, since more countries reported figures in 2008, in particular some countries with large numbers of grants. However superimposed on this there have been genuine increases in the last few years.

Regional granting procedures lead to multiple patents in the various designated states within the region concerned. This has an effect only in EPC states and "Others". Fig. 3.11 illustrates the development of the validated national grants resulting from the decisions reported in Fig. 3.10.



The overall number of national patent rights granted increased by more than 40 percent over the period to more than 1.5 million patent rights granted in 2008.

There has been a steady growth of the number of national patent rights granted in the EPC states. This resulted from the expansion to more member countries leading to a growing number of patents that were granted via the regional procedure at the EPO either directly or via the PCT system.

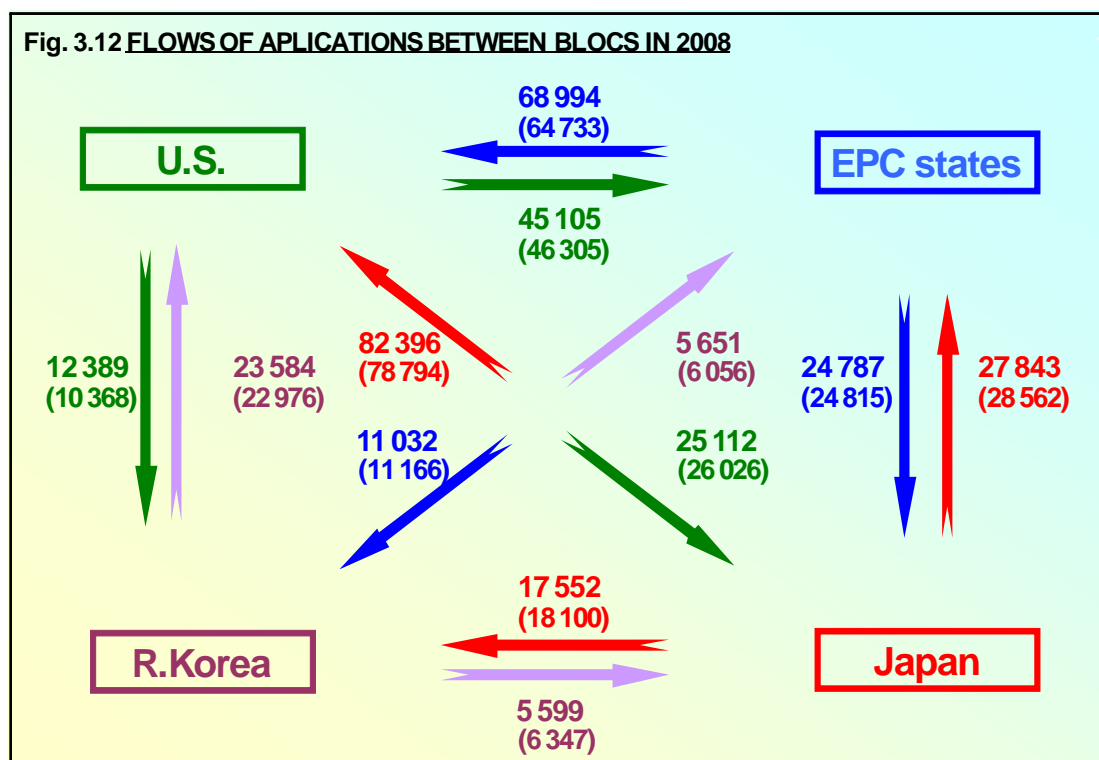
The fact that the EPC states is made of many countries explains why the number of patent rights granted there is much larger than the number of grant actions shown in Fig. 3.10.

INTERBLOC ACTIVITY

The flows between the different blocs and especially the Four Blocs are analysed first in terms of applications and then in terms of patent families.

FLOWS OF APPLICATIONS

The flows of patent applications between the Four filing blocs in 2008 are described in Fig. 3.12, which is based on the distinct applications entering a grant procedure (as in Fig. 3.5). The 2007 figures are given in parentheses.



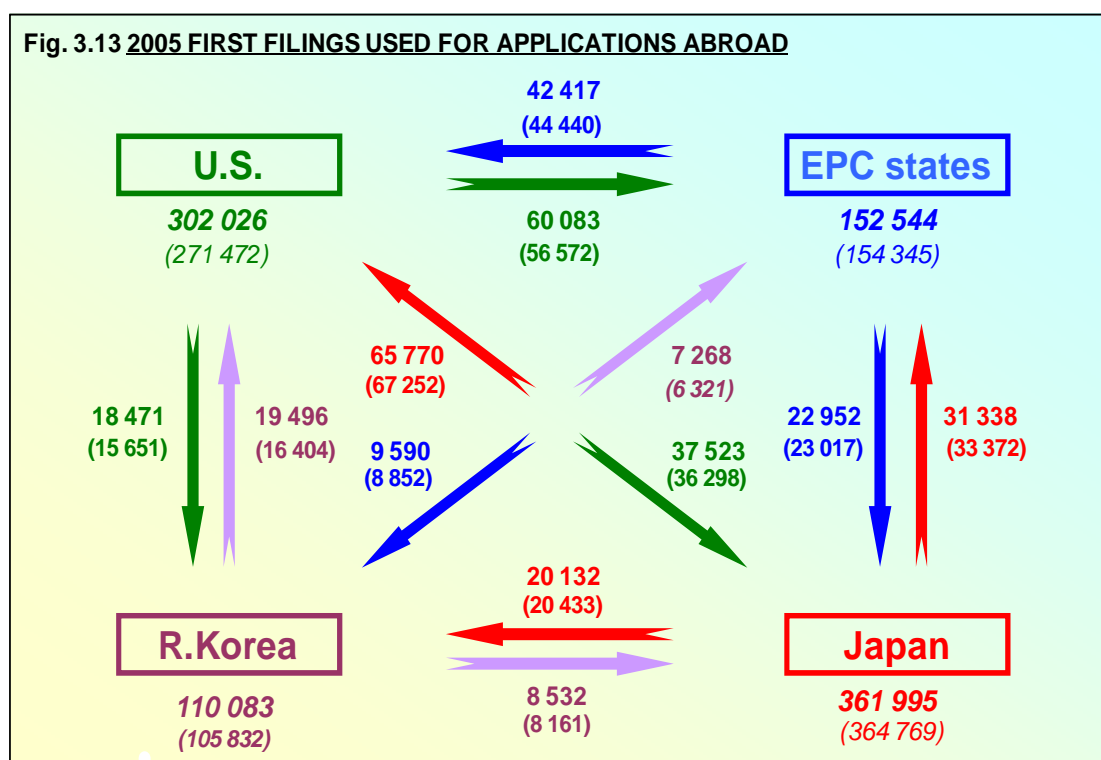
The filing behaviour in 2008 is quite similar to that in 2007. As a general pattern, applicants filed many more applications in the U.S. than in the other blocs. U.S. applicants applied more in the EPC states than in the other regions.

In 2008, the flows to the U.S. showed further increases. With the exception of the flows to and from the U.S, all other flows experienced declines.

PATENT FAMILIES

The information in this section on flows between blocs of patent families was obtained from the DOCDB database of worldwide patent publications. The statistics are based on references to priorities given in published applications and differ to some extent from other statistics in this chapter that are based on counts of filed patent applications provided by individual patent Offices. 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.

The flows of patent families from first filings to subsequent filings between Four Blocs are shown in Fig. 3.13. The number given for each bloc is the total number of distinct references to priority filings in 2005. This can be taken as an indicator of the number of first filings in the bloc for that year. The flow figures between blocs of origin and target blocs indicate the numbers of 2005 priority forming first filings from the bloc of origin that were referenced by subsequent filings in the target bloc. The comparable figures for 2004 are given in parentheses.



The following Table 3 shows details of flows of patent families between blocs for the same priority years 2004 and 2005. Historical tables for the years from 1995 to 2005 can be found in the statistical data files attached to the web based version of this report. From information in Table 3, out of all first filings in the Four Blocs in 2005 (926 648), only 22 percent formed patent families which included at least one of the remaining blocs (203 834). Between 2004 and 2005, flows into R. Korea increased from all blocs except Japan, while otherwise the flows remained fairly stable.

Table 3: NUMBERS OF PATENT FAMILIES

NUMBERS OF PATENT FAMILIES

Year of priority filings: **2004**

Bloc of origin from which priority is claimed	First Filings in Bloc of Origin	Flows to Subsequent Filings										Trilateral Patent Families from bloc of origin	Four Blocs Patent Families from bloc of origin
		First filings in Bloc of Origin leading to priority claims in filings in:											
		Any other Blocs	Any Trilateral Blocs	Any Four Blocs	EPC States	Japan	R. Korea	U.S.	Other countries				
EPC States	154 345	49 835 (32.3%)	46 483 (30.1%)	47 753 (30.9%)	-	23 017 (14.9%)	8 852 (5.7%)	44 440 (28.8%)	28 757 (18.6%)	20 974 (13.6%)	7 201 (4.7%)		
Japan	364 769	74 394 (20.4%)	69 203 (19.0%)	71 789 (19.7%)	33 372 (9.1%)	-	20 433 (5.6%)	67 252 (18.4%)	36 575 (10.0%)	31 421 (8.6%)	11 468 (3.1%)		
R. Korea	105 832	19 235 (18.2%)	17 542 (16.6%)	17 542 (16.6%)	6 321 (6.0%)	8 161 (7.7%)	-	16 404 (15.5%)	9 577 (9.0%)	3 952 (3.7%)	3 952 (3.7%)		
U.S.	290 283	71 091 (24.5%)	60 492 (20.8%)	61 076 (21.0%)	56 572 (19.5%)	36 298 (12.5%)	15 651 (5.4%)	-	50 930 (17.5%)	32 378 (11.2%)	12 761 (4.4%)		
Four blocs subtotal	915 229 (23.4%)	193 720 (21.2%)	193 720 (21.2%)	198 160 (21.7%)	96 265 (10.5%)	67 476 (7.4%)	44 936 (4.9%)	128 096 (14.0%)	125 839 (13.7%)	88 725 (9.7%)	35 382 (3.9%)		
Others	248 247	16 546 (6.7%)	16 045 (6.5%)	16 137 (6.5%)	5 219 (2.1%)	3 052 (1.2%)	1 144 (0.5%)	14 512 (5.8%)	-	1 735 (0.7%)	640 (0.3%)		
Global total	1 163 476 (19.9%)	231 101 (18.0%)	209 765 (18.0%)	214 297 (18.4%)	101 484 (8.7%)	70 528 (6.1%)	46 080 (4.0%)	142 608 (12.3%)	125 839 (10.8%)	90 460 (7.8%)	36 022 (3.1%)		

Year of priority filings: **2005**

Bloc of origin from which priority is claimed	First Filings in Bloc of Origin	Flows to Subsequent Filings										Trilateral Patent Families from bloc of origin	Four Blocs Patent Families from bloc of origin
		First filings in Bloc of Origin leading to priority claims in filings in:											
		Any other Blocs	Any Trilateral Blocs	Any Four Blocs	EPC States	Japan	R. Korea	U.S.	Other countries				
EPC States	152 544	49 127 (32.2%)	45 435 (29.8%)	46 899 (30.7%)	-	22 952 (15.0%)	9 590 (6.3%)	42 417 (27.8%)	29 183 (19.1%)	19 934 (13.1%)	7 283 (4.8%)		
Japan	361 995	74 177 (20.5%)	68 843 (19.0%)	71 515 (19.8%)	31 338 (8.7%)	-	20 132 (5.6%)	65 770 (18.2%)	33 301 (9.2%)	28 265 (7.8%)	10 770 (3.0%)		
R. Korea	110 083	21 942 (19.9%)	20 457 (18.6%)	20 457 (18.6%)	7 268 (6.6%)	8 532 (7.8%)	-	19 496 (17.7%)	9 729 (8.8%)	4 076 (3.7%)	4 076 (3.7%)		
U.S.	302 026	75 040 (24.8%)	64 034 (21.2%)	64 963 (21.5%)	60 083 (19.9%)	37 523 (12.4%)	18 471 (6.1%)	-	53 412 (17.7%)	33 572 (11.1%)	14 755 (4.9%)		
Four blocs subtotal	926 648 (23.8%)	203 286 (21.5%)	198 769 (21.2%)	203 834 (22.0%)	98 689 (10.7%)	69 007 (7.4%)	48 193 (5.2%)	127 683 (13.8%)	125 625 (13.6%)	85 847 (9.3%)	36 884 (4.0%)		
Others	297 072	20 313 (6.8%)	19 767 (6.7%)	19 836 (6.7%)	6 513 (2.2%)	3 559 (1.2%)	1 442 (0.5%)	17 623 (5.9%)	-	1 877 (0.6%)	754 (0.3%)		
Global total	1 223 720 (19.7%)	240 599 (19.7%)	218 526 (17.9%)	223 670 (18.3%)	105 202 (8.6%)	72 566 (5.9%)	49 635 (4.1%)	145 306 (11.9%)	125 625 (10.3%)	87 724 (7.2%)	37 638 (3.1%)		

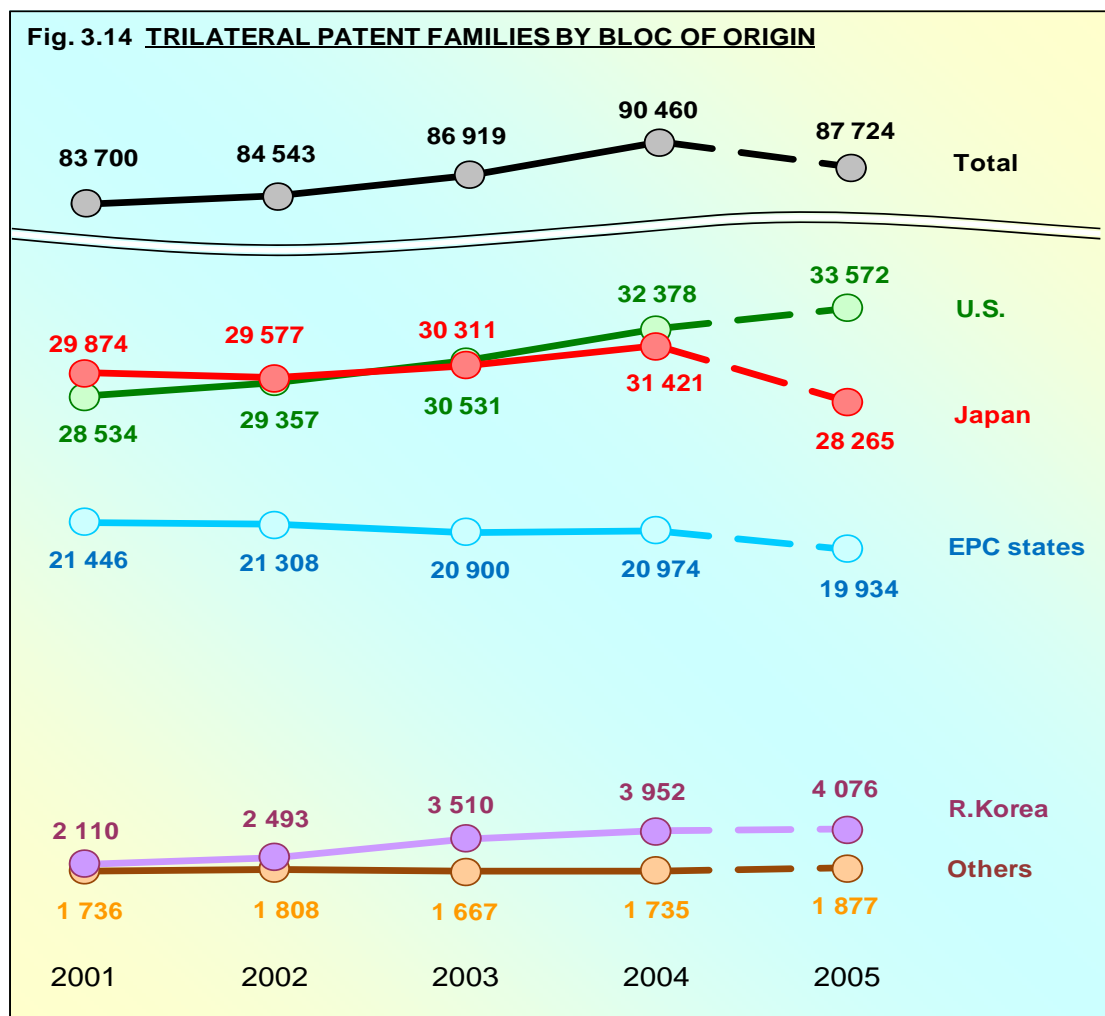
Source: EPO DOCDB database
 Percentages are the counts expressed as proportions of the numbers of First Filings in the countries/blocs of origin.

The references to priorities and flows between the Four Blocs in Fig. 3.13 and Table 3 are fairly accurate up to the year 2005. But the numbers for Trilateral Patent families after the year 2004 may not be complete because more time is needed to gather all the evidence of subsequent filing activity in the Four Blocs.

The total number of Trilateral Patent Families increased from 2001 to 2004. The number of those originating from the EPC states and Japan decreased in 2005, while those from R. Korea and most prominently U.S. increased continuously over the whole period.

Out of all priority forming filings in the Four Blocs in 2004, Table 3 showed that 10 percent formed Trilateral Patent families. The proportions differed considerably according to the bloc of origin of the priority forming filings. For the EPC states, 14 percent of priority forming filings formed Trilateral Patent families, for the U.S. 11 percent, for Japan 9 percent, for R. Korea 4 percent, and for "Others" 1 percent.

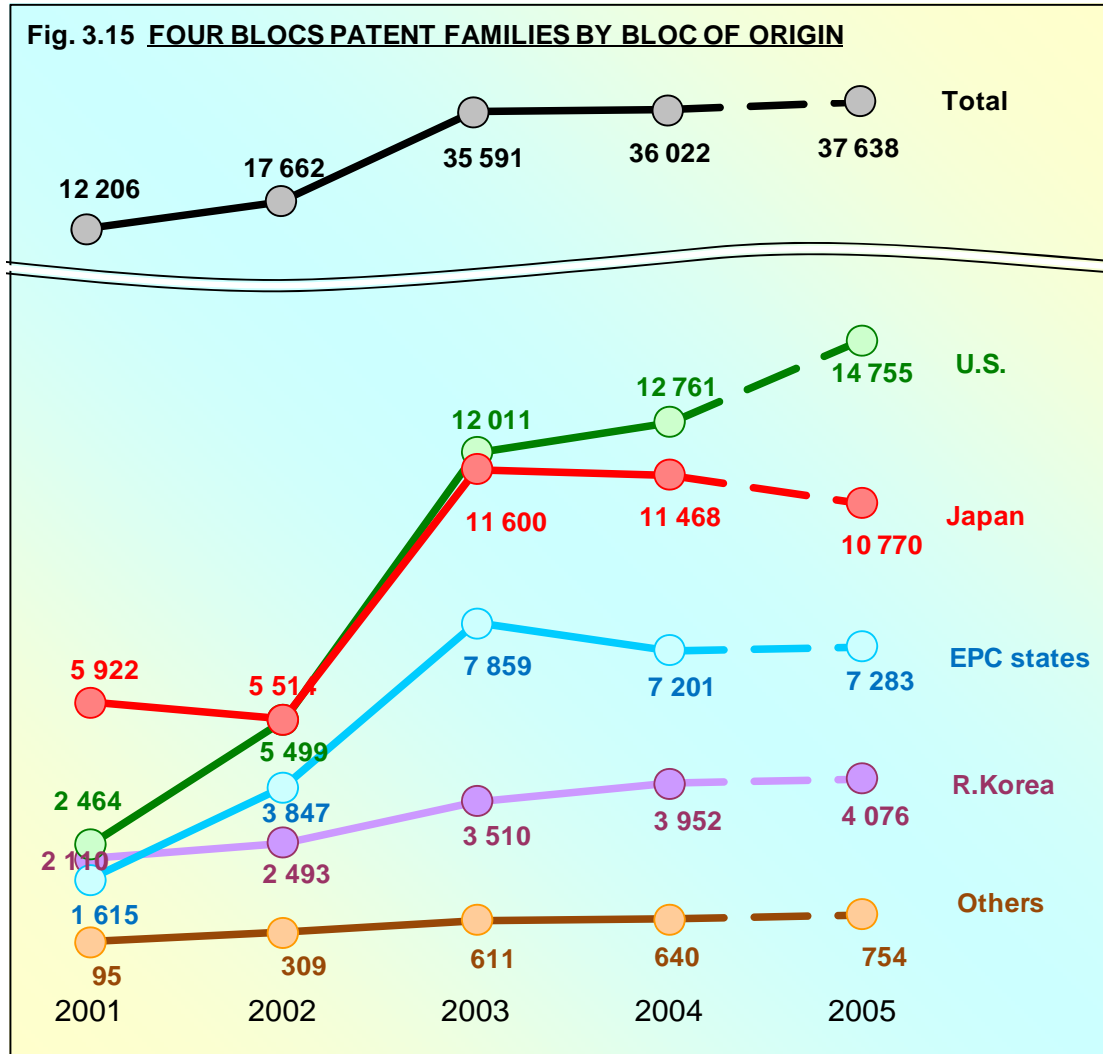
The development over time of Trilateral Patent families is shown in Fig. 3.14.



The total number of Trilateral Patent families in 2004 was 90 460, of which 25 percent originated from the EPC states, 38 percent from Japan, 5 percent from R. Korea, 39 percent from the U.S. and 2 percent from Others.

It is also possible to consider Four Blocs patent families, a more select group where there is evidence of subsequent activity in all Four Blocs from a priority forming first filing.

The development over time of Four Blocs patent families is shown in Fig. 3.15.



This graph shows that the numbers of Four Blocs patent families expanded markedly in 2003 from a low base in 2001 and 2002. This may reflect an increasing interest in obtaining patents in R. Korea. Since the rate of increase of Trilateral families in Fig. 3.14 (compound 1.8 percent per year) is not as great as that for Four Blocs patent families in Fig. 3.15 (compound 31.1 percent per year), this shows that the proportion of Four Blocs patent families among Trilateral patent families is itself increasing.

Chapter 4

PATENT ACTIVITY AT THE FOUR OFFICES

This chapter presents trends in patent application filings and grants at the Four Offices. These statistics are generally available on a more up-to-date basis than those in Chapter 3; so most information that appears here goes beyond 2008 to cover 2009. 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.

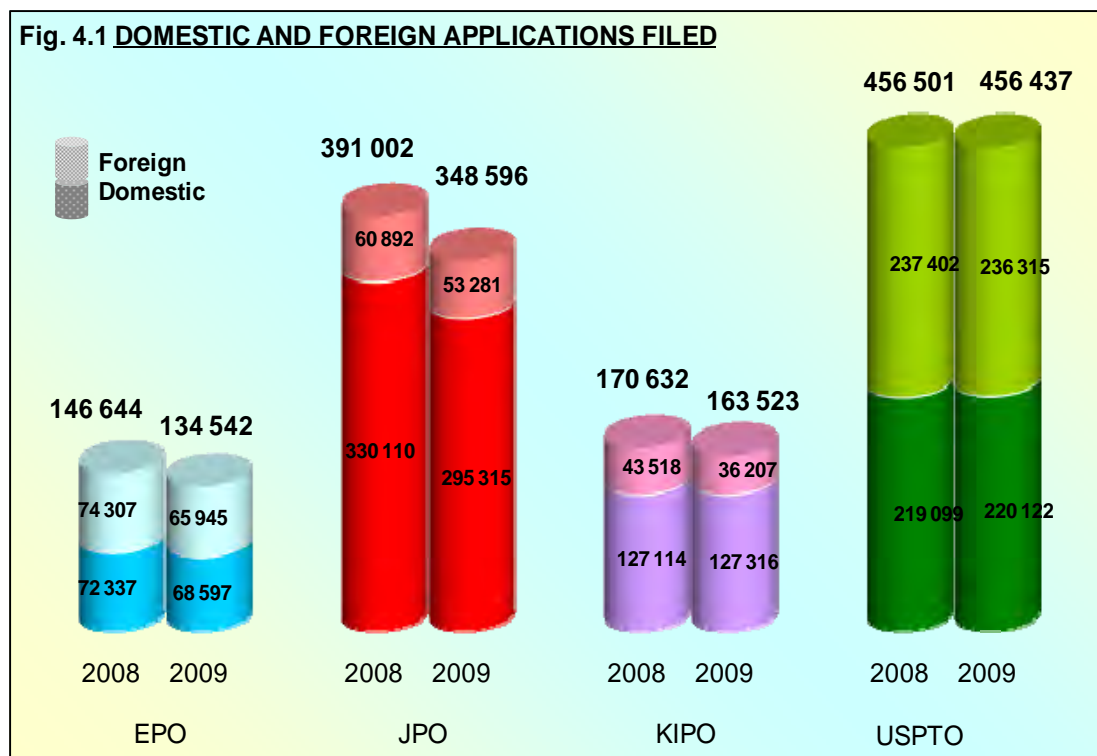
The statistics give insight into the work that is requested and carried out at the Four Offices. For patent applications the representations are analogous to those of the earlier Figures 3.5, 3.6 and 3.12.

Demand at the Four Offices is demonstrated by counts of the numbers of patent applications that were filed. These counts represent the total of direct national/regional applications filed and PCT applications entering the national/regional phase.

For granted patents, the statistics combine information on direct, regional and PCT applications by year of grant. The representations here are similar to Fig. 3.10, 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 Four Offices.

PATENT APPLICATIONS FILED

The numbers of domestic (residents of the country) and foreign (non-residents) patent applications filed with each of the Four Offices for the years 2008 and 2009 are shown in Fig. 4.1.

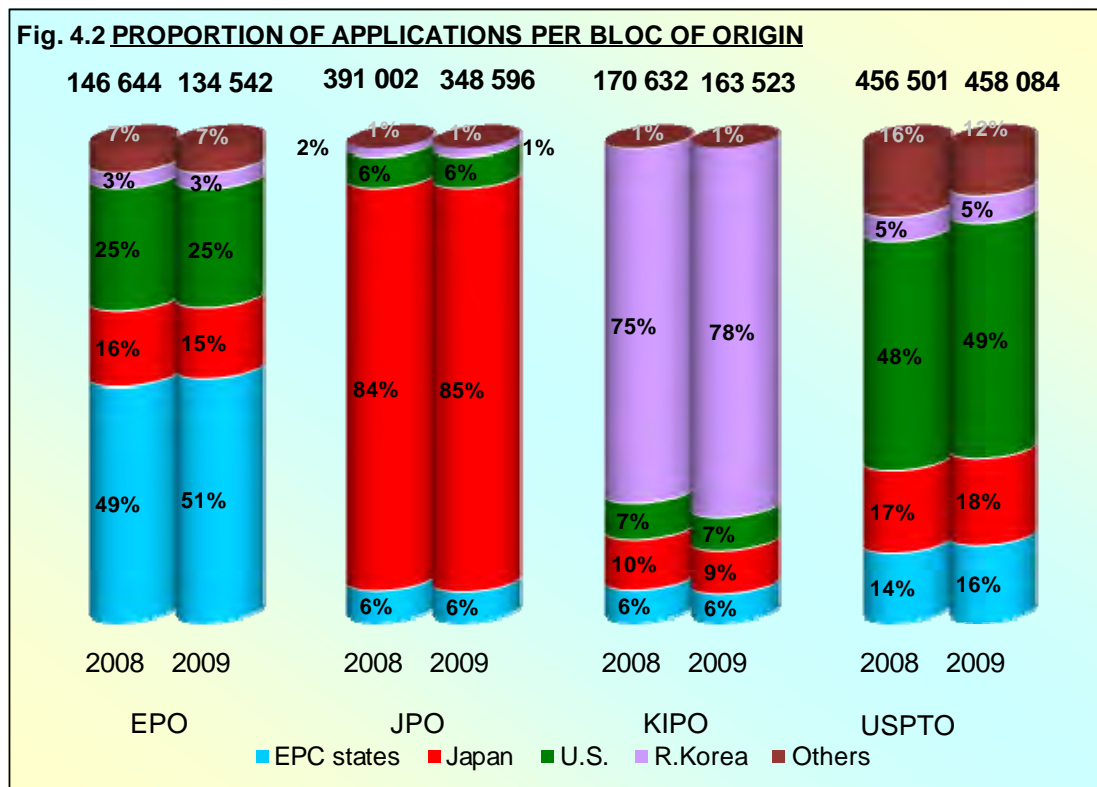


Except for domestic filings at KIPO and USPTO, domestic and foreign application filings at all Offices declined. There were a total of 134 542 patent applications filed with the EPO in 2009, which is a decline of 8 percent. The number of patent application filings at the JPO decreased by 11 percent to 348 596. The number of patent application filings at the KIPO decreased by 4 percent to 163 523. USPTO recorded 456 437 patent application filings in 2009, almost the same level as in 2007 and 2008.

At EPO and JPO, both domestic and foreign applications declined in 2009. At KIPO, foreign applications declined substantially, but domestic applications remained stable. At USPTO, domestic and foreign applications remained stable.

This figure also illustrates the predominance of domestic applications at JPO and KIPO.

Fig. 4.2 shows the respective shares of patent application filings by origin (residence of applicants or inventors) relative to total filings at each Office for 2008 and 2009.



Comparison of the numbers of applications at the Four Offices should only be made with caution. For example, the numbers of claims given in applications are significantly different among the Four Offices. On average, in 2009, an application filed at EPO contained 13.9 claims (15.6 in 2008), one filed at the JPO contained 9.7 claims (9.8 in 2008), one filed at KIPO contained 10.3 claims (10.9 in 2008), while one application at USPTO had 18.8 claims (19.3 in 2008).

The shares of patent application filings by each bloc of origin are quite consistent for 2008 and 2009. The marked decline of foreign applications at KIPO, mentioned earlier, is reflected here by a surge of the share of domestic applications at KIPO.

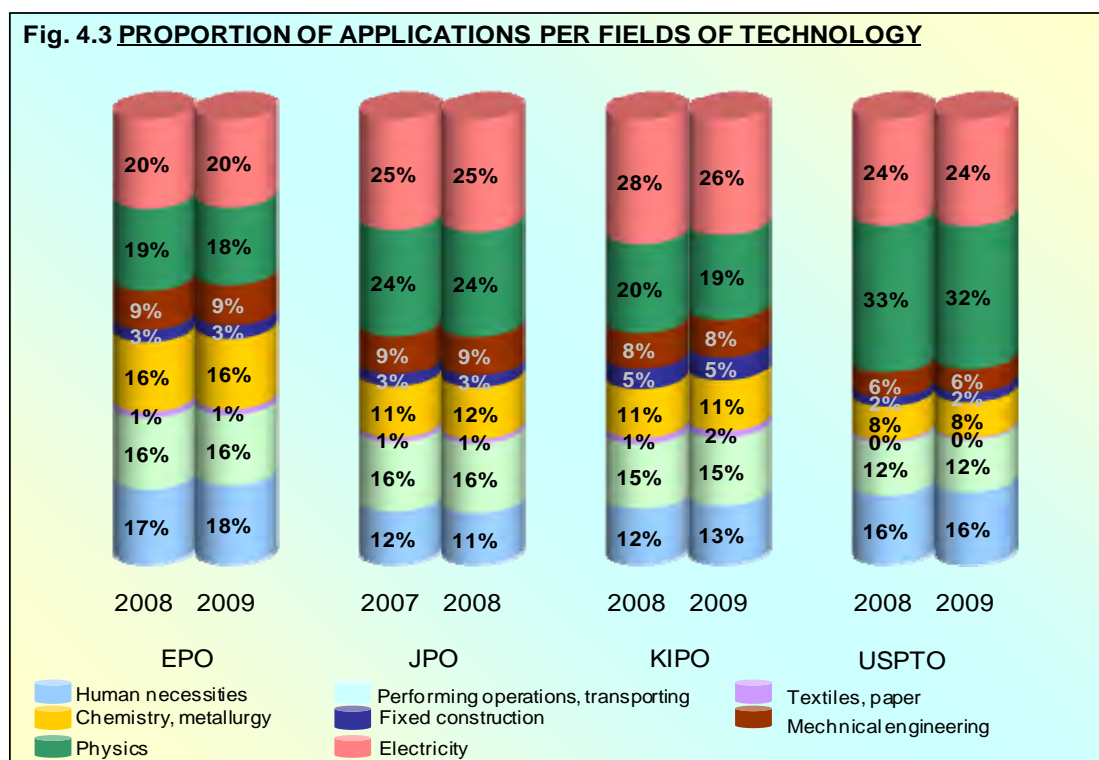
FIELDS OF TECHNOLOGY

Patents are classified by the Four 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.

The classification takes place at a different stage of the procedure in the Offices. Data are shown for the EPO, KIPO, and the USPTO for the filing years 2008 and 2009, while for the JPO the breakdown is given for the filing years 2007 and 2008¹⁹.

USPTO applications are classified according to 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 USPTO's IPC data and that from EPO, JPO and KIPO.

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.

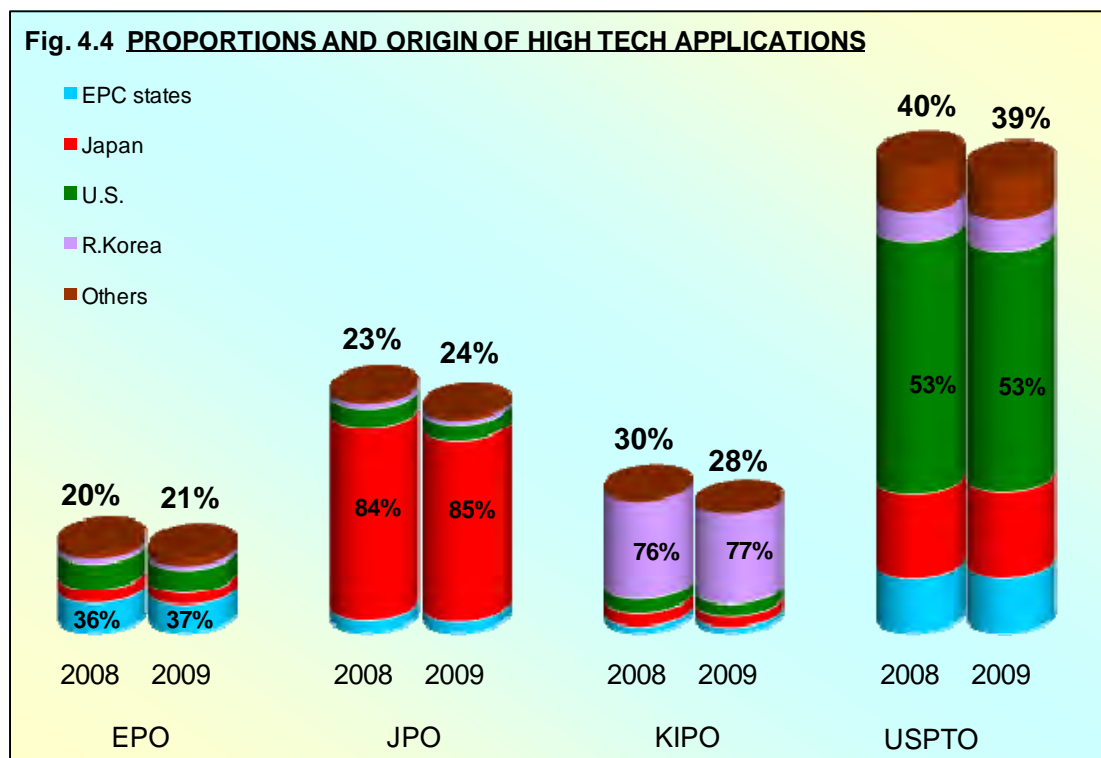


¹⁹ JPO data for 2008 are the most recent available figures because the IPC assignment is completed just before the publication of the Unexamined Patent Application Gazette (18 months after the first filing).

The IPC does not itself define high technology fields. The Four Offices, however, consider the following as high technology fields:

- Computer and automated business equipment,
- Micro-organism and genetic engineering,
- Aviation,
- Communications technology,
- Semi-conductors, and
- Lasers.

In Fig. 4.4, the proportions of applications in high technology areas are given for each Office in 2008 and 2009, together with the subsidiary breakdowns by origins (with subsidiary percentages given for the domestic region in each case). The height of each bar gives an indication of the number of high technology applications at that Office.

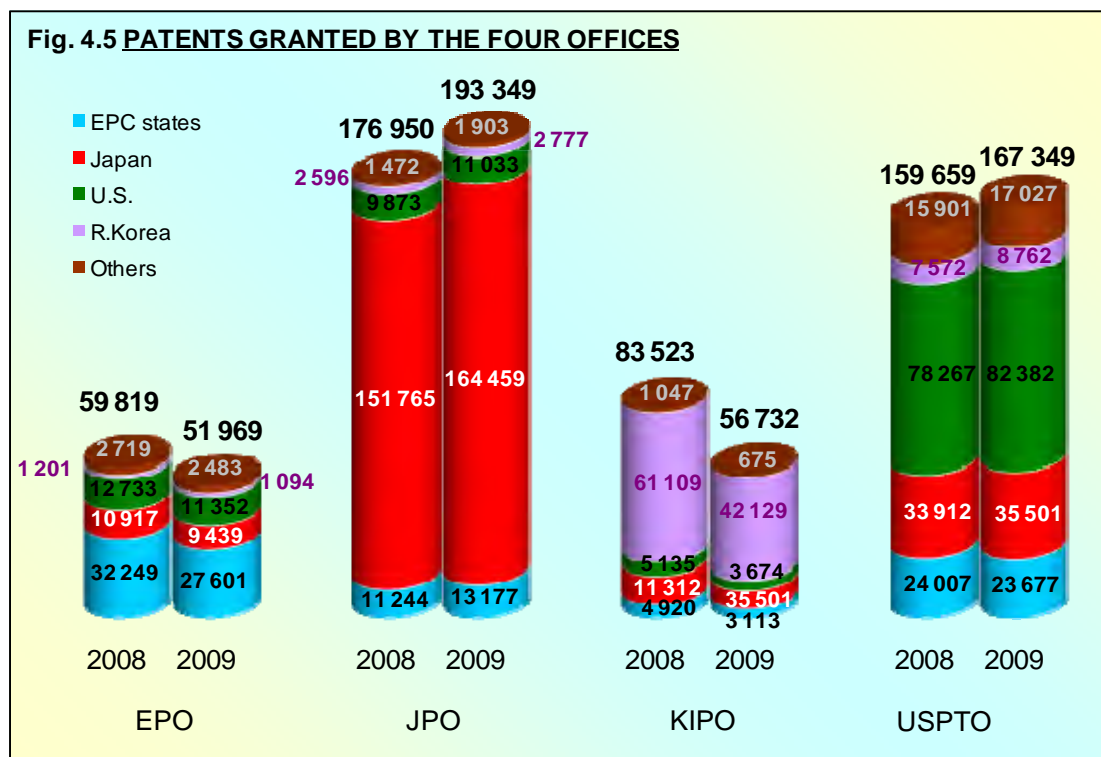


On average 30 percent of the Four Offices applications are filed in high technology areas. The proportions are markedly different between the Four Offices. The high technology areas share is much higher at the USPTO than at the other Offices. While at the other Offices, the subsidiary share of domestic applications within the high technology areas is comparable to that in all applications, the domestic subsidiary share is noticeably lower at the EPO.

In 2009, the share of high technology applications declined at KIPO and USPTO and slightly increased at EPO and JPO.

PATENT GRANTS

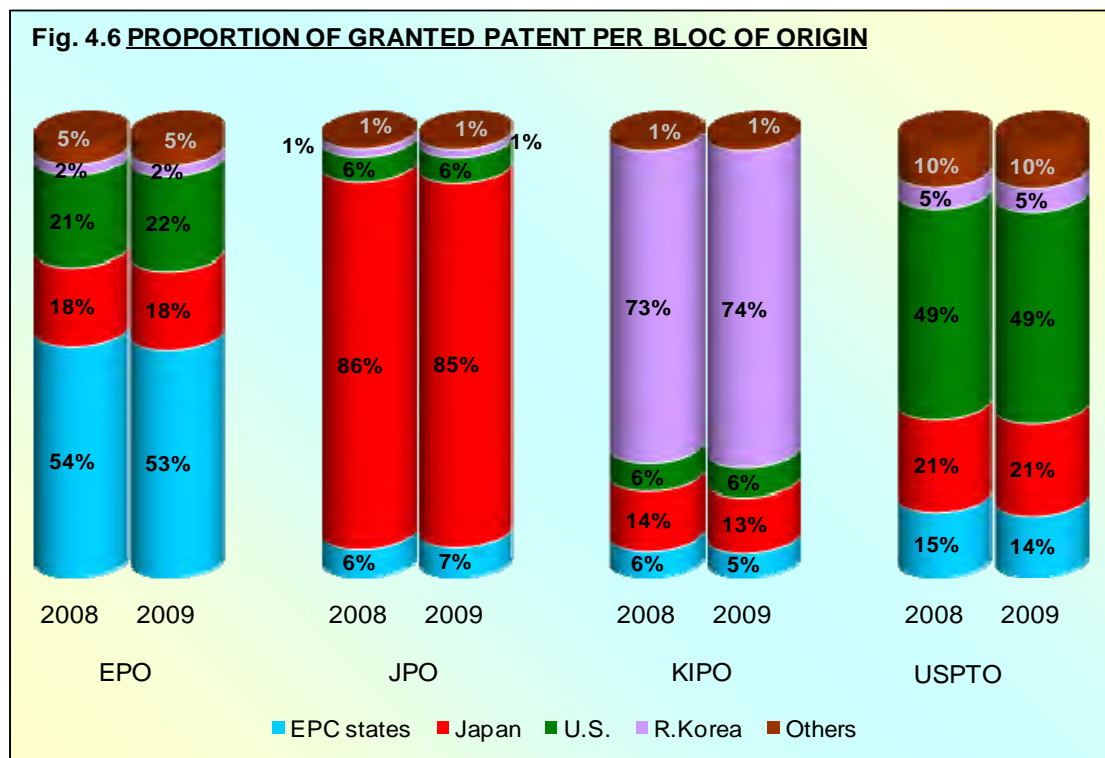
Fig. 4.5 shows the numbers of patents granted by the Four Offices, according to the bloc of origin.



Together the Four Offices granted 469 399 patents in 2009, 10 552 less than in 2008. This is an overall decline of 2.2 percent.

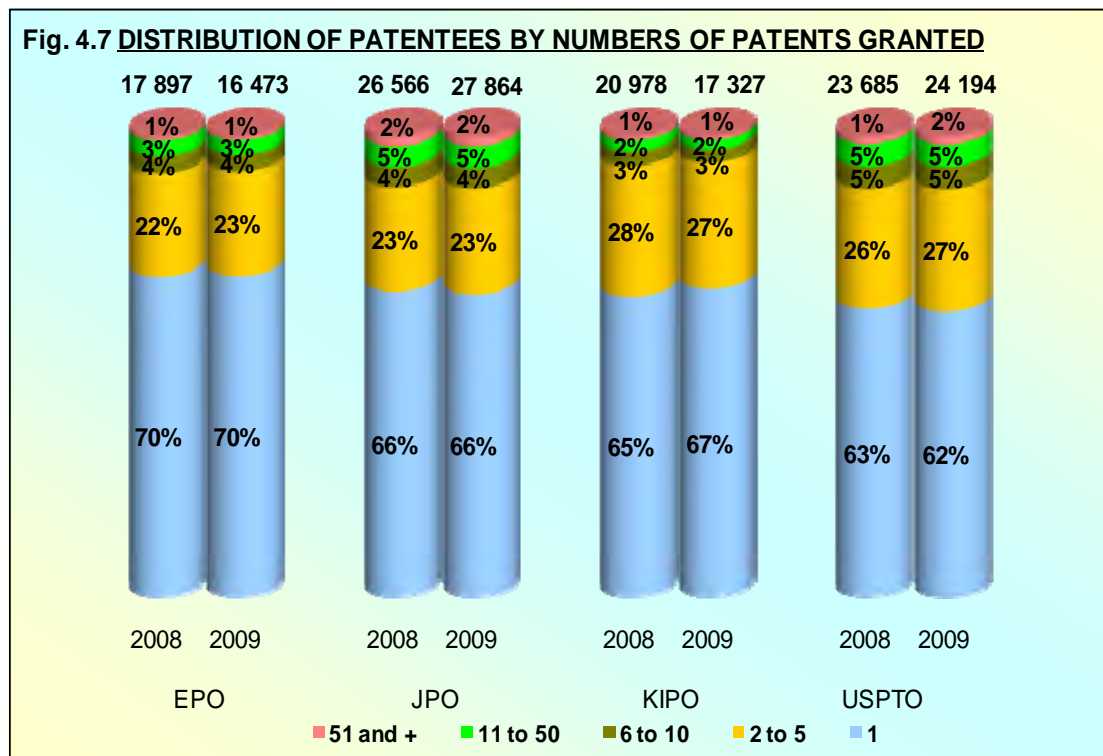
The number of patents granted by JPO and USPTO increased in 2009, by 9 percent and 5 percent respectively. The number of patents granted by KIPO and EPO decreased in 2009 by 32 percent and 13 percent respectively. The differences between the Four Offices regarding the absolute numbers of patents granted 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 Four Offices (see section below on "Patent Procedures").

Fig. 4.6 presents the percentage shares of total patents granted by bloc of origin.



The shares from the different blocs of origin are not far away from those observed for the filings in each Office as presented in Fig. 4.2. However, comparison of the figures shows that the shares by domestic origin within the numbers of patent grants at EPO are slightly higher than the comparable shares within the numbers of applications filed. Also, the shares of Japanese origin granted patents are higher than the corresponding shares in applications from Japan at the other Offices.

The breakdown of numbers of patentees by numbers of patents granted is shown in Fig. 4.7.



This diagram shows that the distribution of grants to patentees is similar at each Office and is highly skewed at all of them.

At the Four Offices, up to about 9 out of 10 patentees received not more than five patents. The proportion of patentees receiving two to five grants is larger at KIPO and at USPTO (27 percent in both cases in 2009) than at EPO and at JPO (23 percent in both cases in 2009).

In 2009, the average patentee received 3.2 patents at EPO compared to 6.9 at JPO, 3.3 at KIPO and 6.9 at USPTO. The greatest number of patents granted to a single applicant was 614 at EPO, 5 124 at JPO, 1 545 at KIPO, and 4 887 at USPTO.

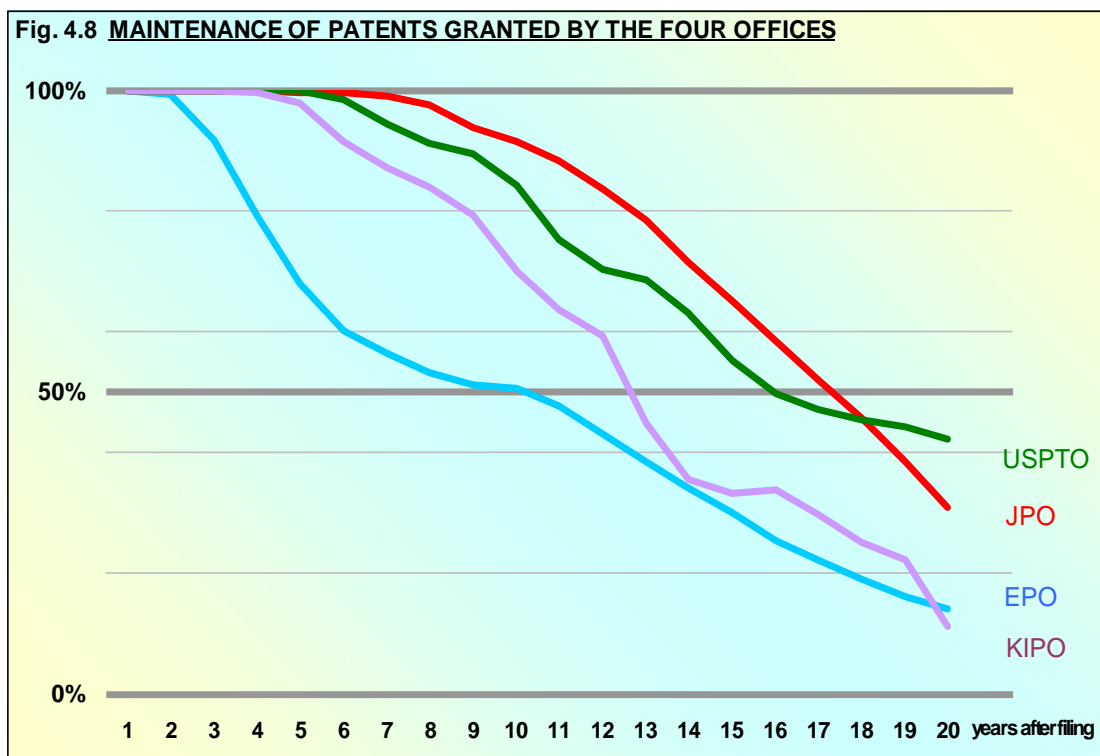
A patent is enforceable for a fixed term, and depends on actions taken by owner. In all Four Offices the fixed term is usually a twenty year term from the date of filing the application. In order to maintain protection during this period, the applicant has to pay what are variously known as renewal, 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 Four Offices, protection expires if a renewal fee is not paid in due time.

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

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

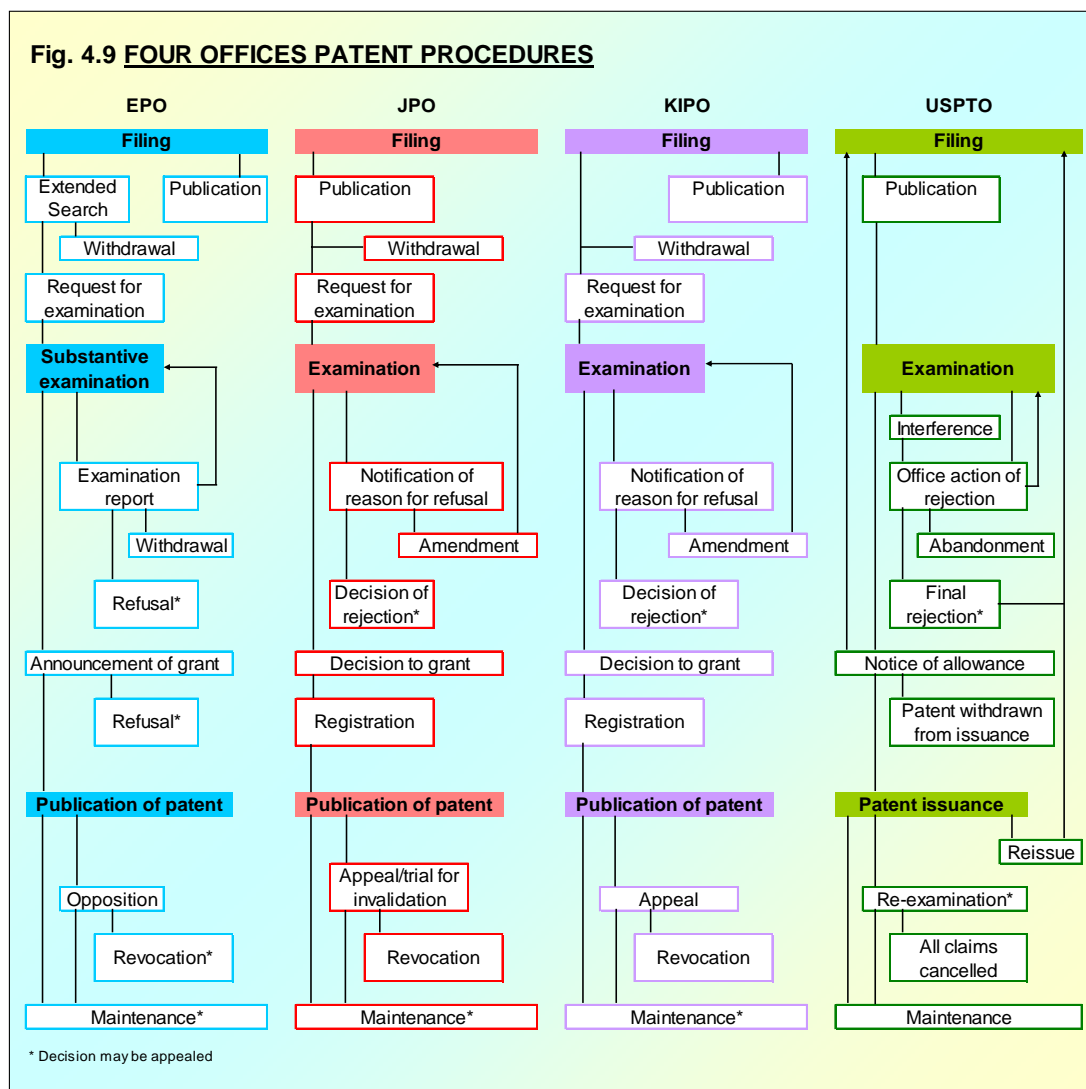
Fig. 4.8 shows the proportions of patents granted by each Office that are maintained for differing lengths of time. It compares the rate of granted patent registrations existing and in force each patent year starting with the year of application. The EPO proportions represent an average ratio of maintenance in the 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 collecting the fees (by year after patent grant).



In Japan, over 50 percent of the patents granted are maintained for at least 17 years from filing, compared 12 years for the R. Korea patents, 16 years for the U.S. patents and 10 years for EPO granted rights.

PATENT PROCEDURES

The major phases of the grant procedures at the Four Offices are shown in Fig. 4.9, which 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).



Examination: search and substantive examination

Each of the Four Offices examines a filed patent application based upon novelty, inventive step, and industrial applicability. At 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 JPO, KIPO or USPTO, the search and substantive examination are undertaken in one phase.

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

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

Publication

In the Four Offices, the application is to be published no later than 18 months after the date of filing or the earliest priority date. The application can be published earlier at the applicant's request. In 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); 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); or 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); Final rejection (USPTO) - or withdrawn by the applicant -- Withdrawal (EPO); Withdrawal or Abandonment (JPO); Withdrawal or Abandonment (KIPO); Abandonment (USPTO). In addition, if no request for examination for an application is filed to EPO, JPO or KIPO within a prescribed period (six months after publication of the search, three years from the date of filing, and five years from the date of filing, respectively), the application will be deemed to have been withdrawn. In all four 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, and KIPO) or Patent issuance (USPTO).

Opposition

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

There is no opposition system at JPO and KIPO.

At 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 USPTO, there are two features that may lead to the cancellation of a granted patent: interference proceedings and re-examination. These features are not comparable to the opposition procedure at EPO. In USPTO, the first feature is a priority contest between applicants/patentees seeking to protect the same invention and the second feature may be requested by third parties or by the patentee during the lifetime of a granted patent.

Appeal

An appeal can be filed by any of the parties concerned against a decision taken by the Four 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 Four Offices. The examining department first studies the argument brought forward by the appellant and decides whether the decision should be revised²⁰. 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.

²⁰ In JPO, in the case that amendment of the description, claims or drawings has been made at the same time of the submission of an appeal a decision to reject the application, the examiner first re-examines the amendment brought forward by the appellant in order to decide whether the decision can be overturned. If not, the case will be forwarded to the appeal examiners for the final decision.

STATISTICS ON PROCEDURES

Table 4 shows various statistics as average rates and numbers where applicable for 2008 and 2009. Definitions of the various terms are given in Annex 2.

Rates

The examination rate in USPTO is 100 percent, since filing implies a request for examination, whereas in EPO, JPO and KIPO a specific request for examination has to be made. At 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 JPO and KIPO because applicants have substantially more time to evaluate whether to proceed further with the application or not.

The grant rate is higher at KIPO than at the other Offices. The grant rate at EPO dropped from 2008 to 2009.

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 Four 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, for instance a request for examination, or a response to actions communicated by the Office.

As shown in Table 4, altogether more than 4.2 million applications were pending in the Four Offices at the end of 2009, in terms of either awaiting request for examination or awaiting, final action in examination. This represents a reduction of 5 percent of the number of pending, files at the Four Offices.

Table 4: STATISTICS ON PROCEDURES

Progress in the procedure		Year	EPO	JPO	KIPO	USPTO
Rates in percentage						
Examination		2008	93.5	65.6	83.4	100.0
		2009	92.1	63.2	79.4	100.0
Grant ²¹		2008	49.5	50.2	67.6	44.0
		2009	41.8	50.2	60.4	42.0
Opposition		2008	5.2	-	-	-
		2009	4.7	-	-	-
Maintenance after opposition		2008	67.9	-	-	-
		2009	66.8	-	-	-
Appeal ²²	On examination	2008	29.7	31 483	32.5	3.8
		2009	25.5	24 589	28.0	6.1
	on opposition	2008	45.7	-	-	-
		2009	42.7	-	-	-
Pendency in the procedure						
Search	Number of pending applications	2008	136 021	-	-	-
		2009	134 849	-	-	-
	Pendency times in search (months)	2008	18.9	-	-	-
		2009	16.5	-	-	-
Examination	Number of applications awaiting request for examination	2008	18 051	1 500 879	289 835	-
		2009	20 328	1 449 339	309 586	-
	Number of pending examinations ²³	2008	339 043	868 025	469 869	809 070
		2009	347 861	716 812	511 738	731 399
	Pendency time to first office action (months)	2008	19.0	28.5	12.1	25.7
		2009	20.2	29.1	15.4	25.9
Pendency time in examination ²⁴ (months)	2008	46.9	33.9	17.4	33.5	
	2009	41.7	35.3	22.2	34.8	
Opposition	Number of pending applications	2008	5 885	-	-	-
		2009	5 659	-	-	-
	Pendency time in opposition ²⁵ (months)	2008	23.9	-	-	-
		2009	22.6	-	-	-

- = not applicable

²¹ The USPTO reports on allowance rate.

²² For JPO, only numbers are available.

²³ For JPO, the applications for which the applicants wished to make deferred payment of examination request fee (see Chapter 2) and have been still deferring the payment are not counted in the number of pending examinations for the year 2009.

²⁴ For EPO, the counts relate to pendency until dispatch of the decisions.

²⁵ For EPO, these counts also now relate to pendency until dispatch of the decision.

Chapter 5

THE FOUR OFFICES AND THE PATENT COOPERATION TREATY

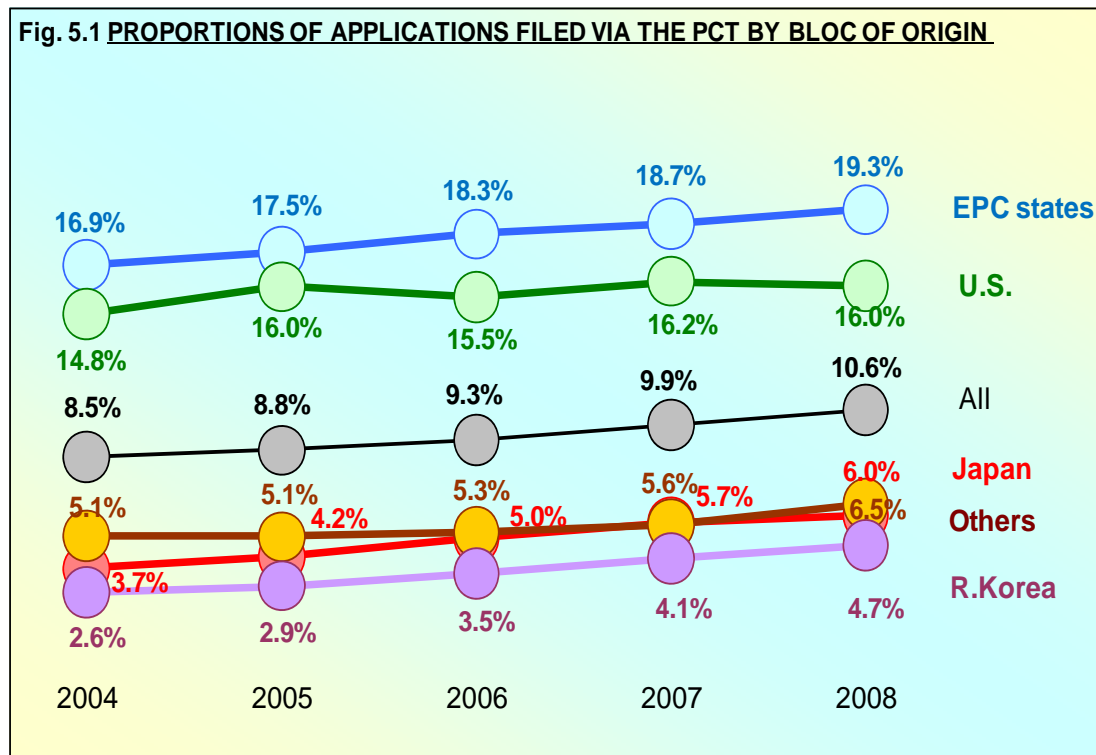
This chapter presents statistics on the extent of the various activities of the Four Offices that relate to the PCT system. The graphs cover five-year periods that include the latest year for which reliable data are available.

Graphs are presented to display the shares of patent applications and grants using the PCT filing route by origin. Descriptions are then given of additional activities of the Four Offices under the PCT as receiving office (RO) for applicants in their respective territories, as the major international searching authorities (ISA) and as international preliminary examination authorities (IPEA). PCT searches are a significant additional workload item at the Four Offices to those already described in Chapter 4.

THE PCT AS FILING ROUTE

PATENT FILINGS

Fig. 5.1 shows, for each bloc of origin, the proportions of all patent applications filed that are PCT international applications. Applications are counted in the year of filing.



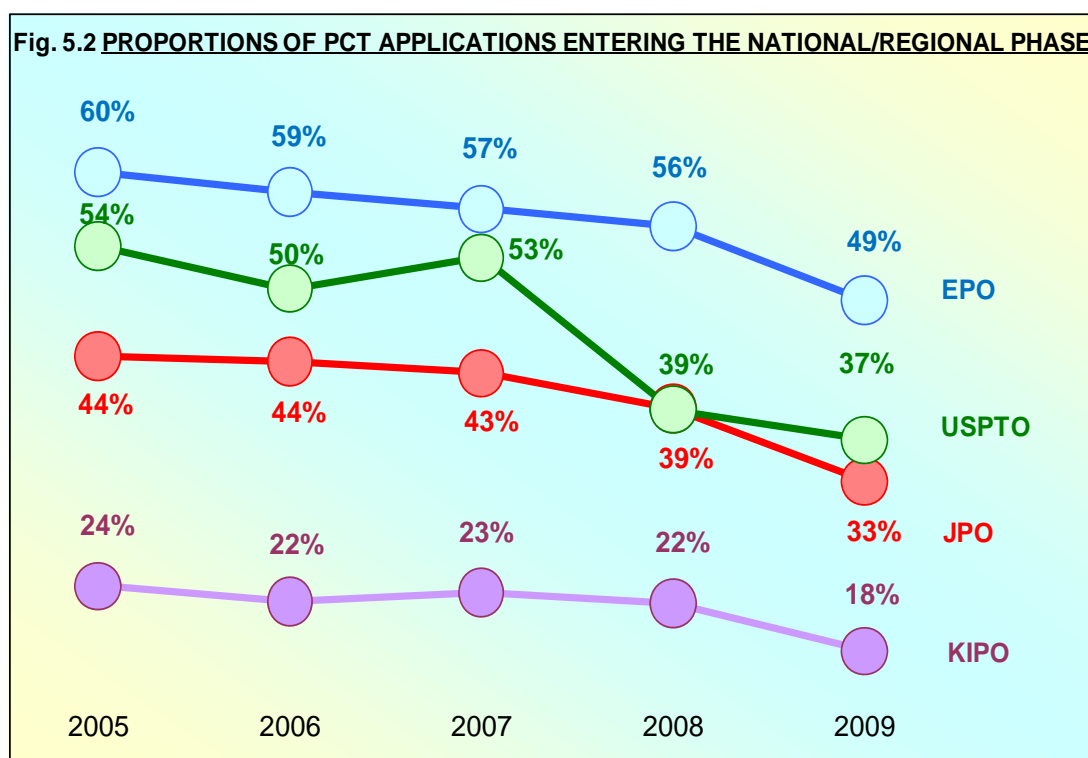
On average 10 percent of the applications filed were filed via the PCT route.

U.S. and EPC applicants used the PCT system more than applicants did in the other blocs – and also kept increasing their usage of PCT further in 2008, although at a lower relative rate of increase than applicants from Japan and R. Korea.

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.

The proportions of PCT applications having entered the national or regional phase at each of the Four Offices in all the international phase PCT applications are presented in Fig. 5.2. Applications are counted in the year that they qualify for entry because the delay to enter the national or regional phase has expired²⁶.



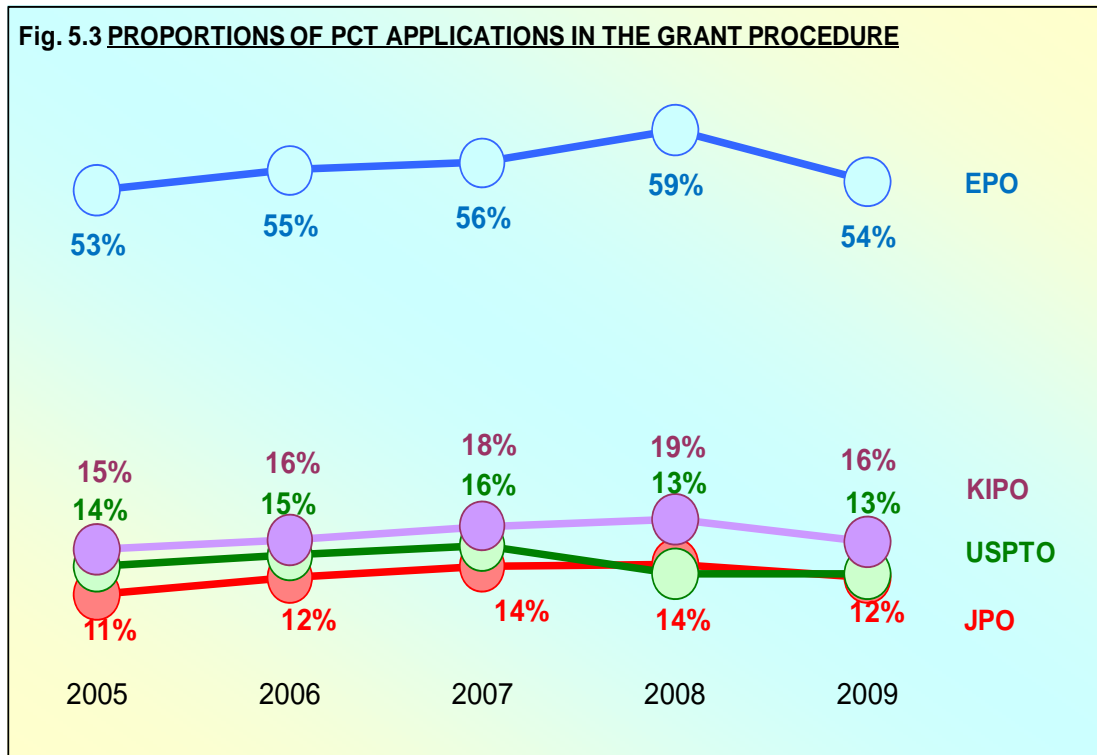
There is a general declining trend observed at all Offices. This should be interpreted in the context of the strong increase of the number of PCT international applications filed during the period and shortly before.

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

²⁶ 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

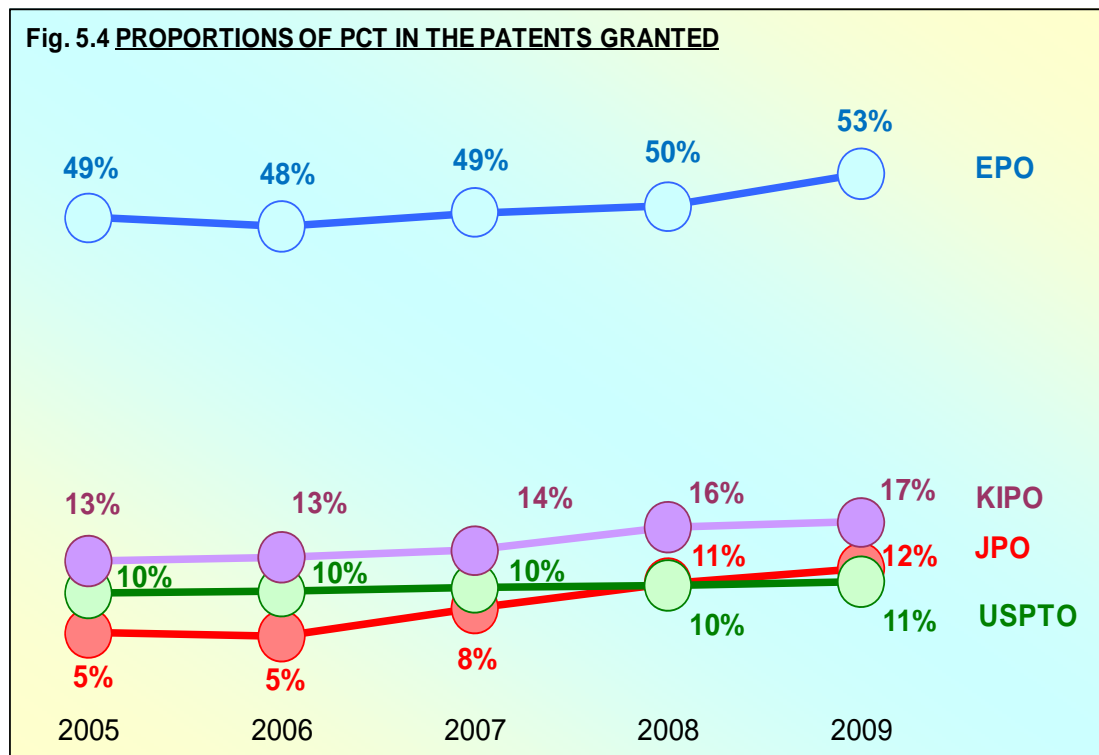
Fig. 5.3 shows the proportions of PCT applications relative to applications that entered the grant procedure at each Office (as presented earlier in Fig. 4.1).



Although declines were reported in Fig. 5.2, the proportions of PCT applications decreased from 2008 to 2009 only for KIPO. As has already been mentioned above, the EPO has a higher proportion of PCT applications than at the other Offices.

PCT GRANTS

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

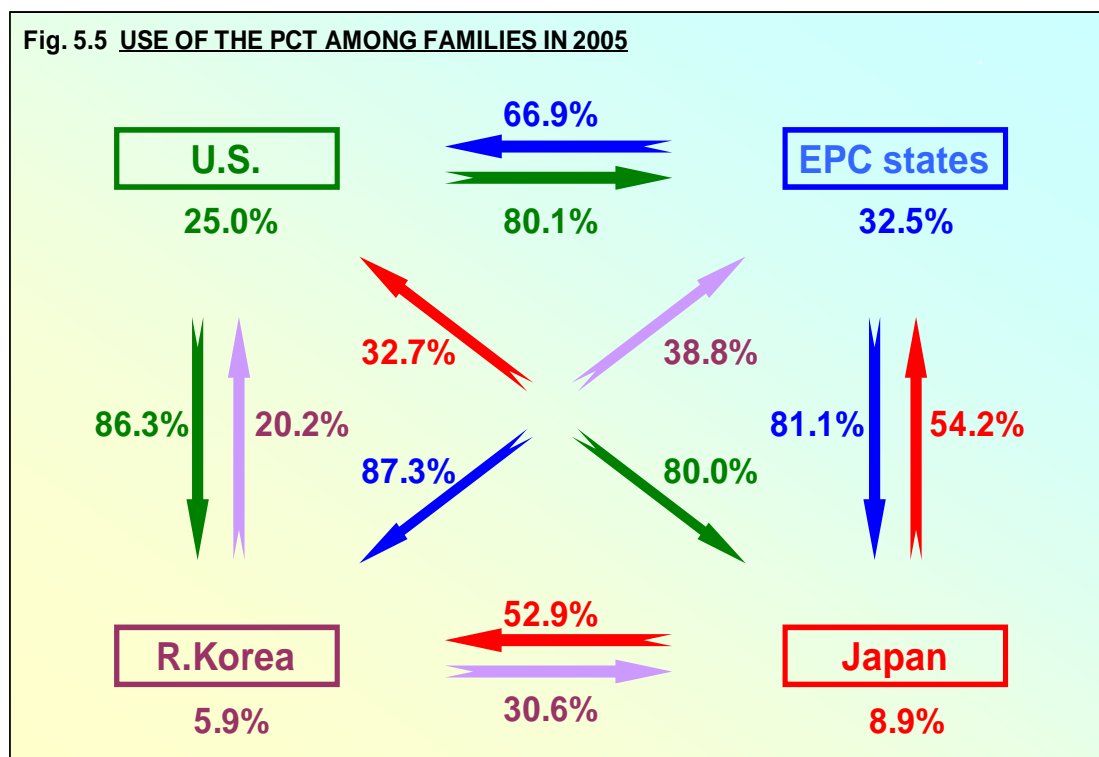


Shares of PCT patents granted are usually somewhat below those of applications (see Fig. 5.3), since granted patents generally relate to applications that had been filed three to five years earlier when the proportions of PCT applications were lower (as shown in Fig. 5.1).

PATENT FAMILIES AND PCT

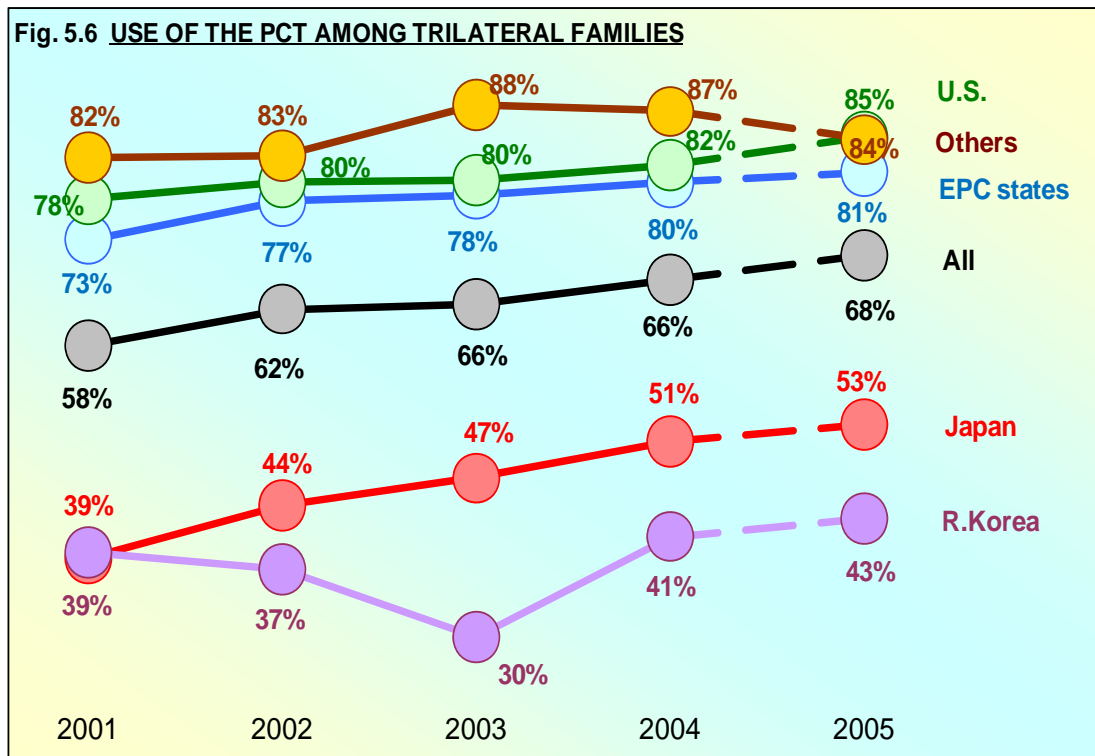
The PCT system provides a good way to make subsequent patent applications in a large number of countries. Therefore it can be expected that many patent families flowing between blocs will use the PCT route. In this section, the use of the PCT system implies that at least one PCT application has been made within the family of filings for the same invention. Historical tables for the years 1995 to 2005 can be found in the statistical data file that is attached to the web based version of this report.

Fig. 5.5 shows two percentages relating to use of the PCT system. The first, next to the name of each bloc, is the proportion of the overall number of distinct referenced priorities 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 2005, and can be compared with Fig. 3.13.



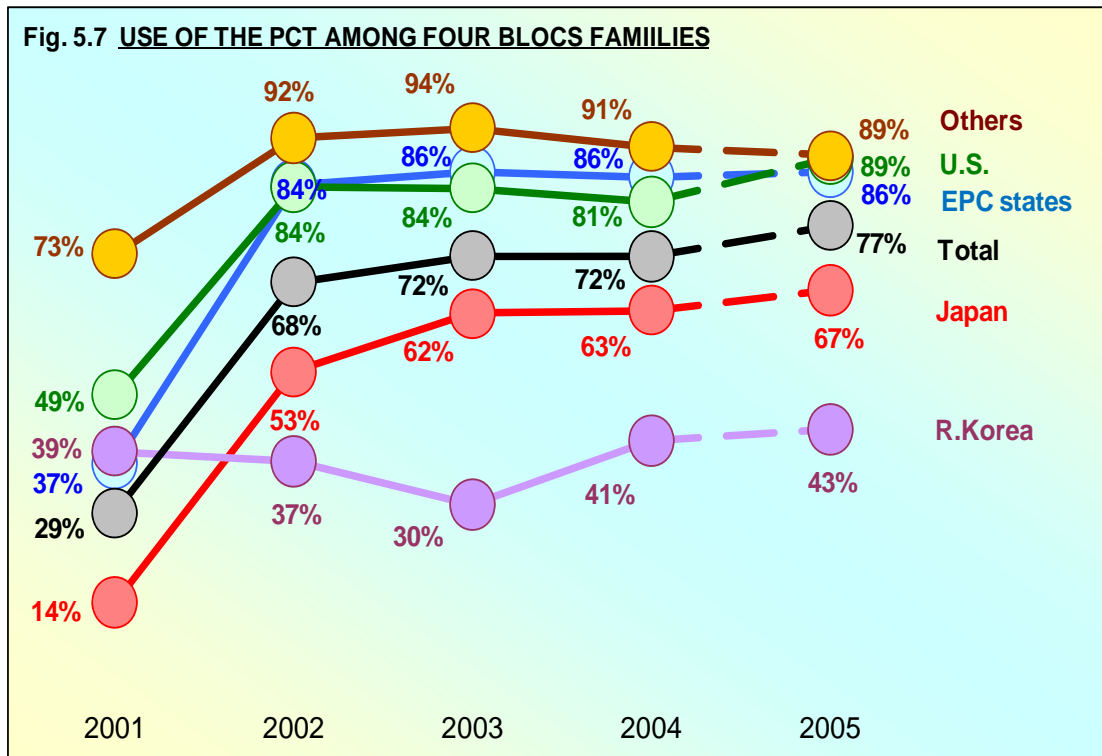
In general, the usage of the PCT route is far higher when making applications abroad rather than at home. Applicants from U.S. and EPC states prefer to use the PCT system to a greater extent than applicants from Japan and R. Korea.

Fig. 5.6 shows the proportions of Trilateral Patent families (as given earlier in Fig. 3.14) that make some use of the PCT system. As discussed earlier, the data for 2005 are provisional.



Usage of the PCT system was fairly widespread in Trilateral Patent families, although still at a somewhat lower level in Japan and R. Korea. In 2004, out of all Trilateral Patent families, 66 percent made some use of the PCT system.

Fig. 5.7 shows the proportions of Four Blocs patent families (as given earlier in Fig. 3.15) that made some use of the PCT system.

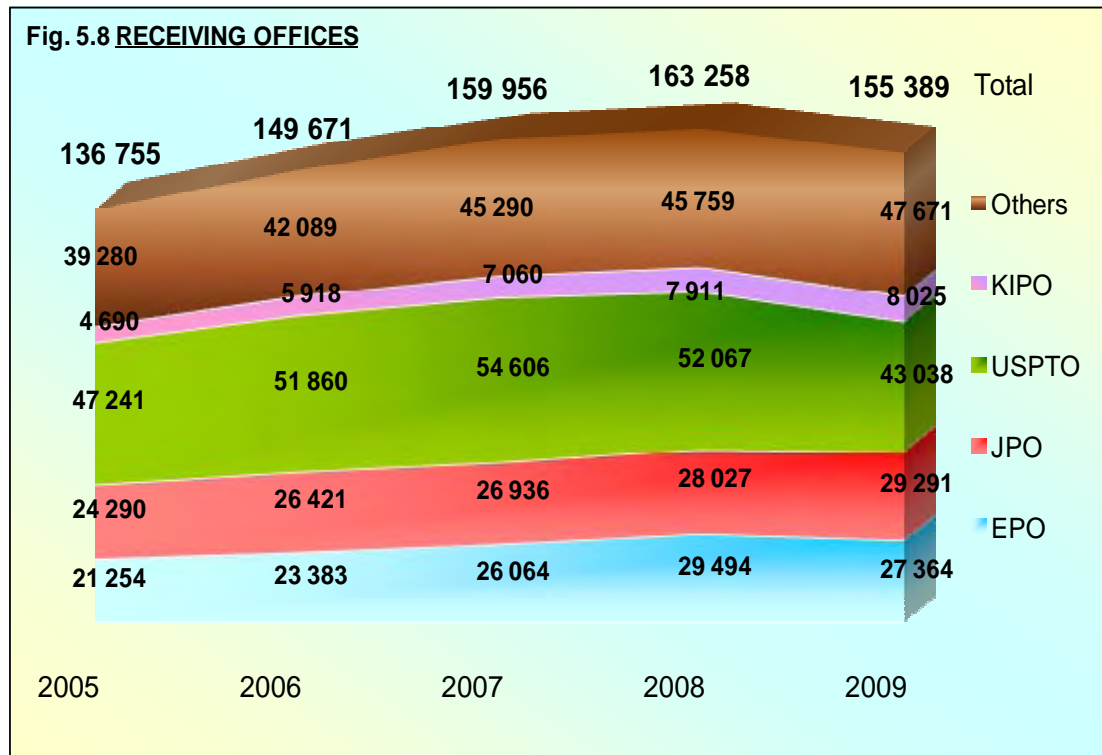


The usage of the PCT system has generally grown in the Four Blocs families over the period from 2001 to 2004. Fig. 5.7 confirms that the PCT system is indeed a useful way to obtain an increased international distribution of subsequent filings.

PCT AUTHORITIES

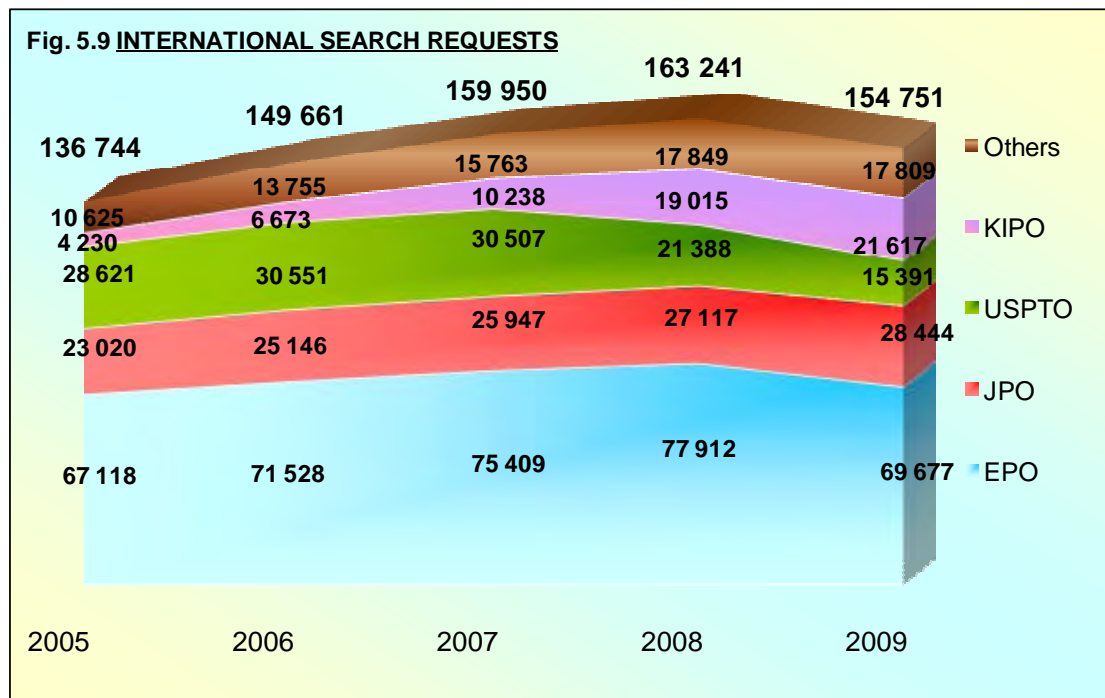
Under the PCT, each of the Four Offices acts as RO, mainly for applicants from its own geographical zone, and as ISA and IPEA for non residents and residents. The following graphs show the trends from 2005 to 2009.

Fig. 5.8 shows the breakdown of PCT international filings by ROs over time.



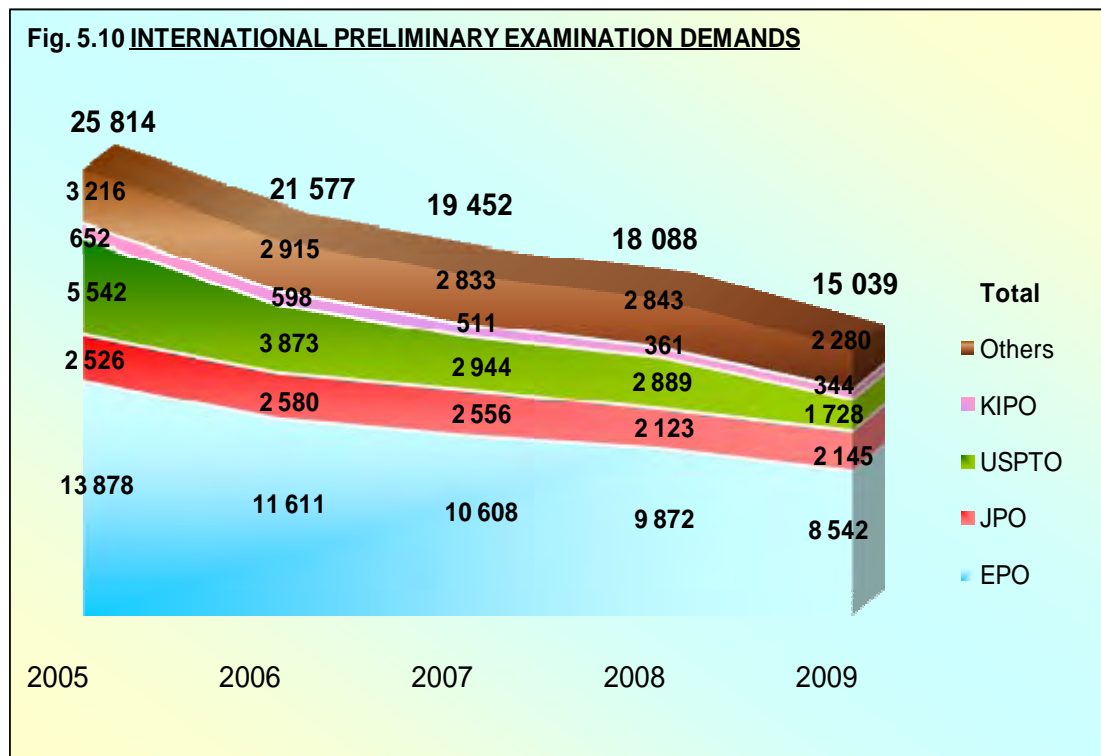
EPO and the JPO received fewer international applications than USPTO and KIPO received far fewer applications. In 2009, there were declines of 17 percent at USPTO and 7 percent at EPO compared to 2008. At JPO and KIPO there was a growth 5 percent and 1 percent respectively in 2009.

Fig. 5.9 shows the breakdown of the numbers of international search requests over time.



The Four Offices together received 87 percent of the PCT international search requests in 2009. A growing proportion of applicants select KIPO to perform the PCT international search. The reason for this may be that KIPO has been appointed fairly recently as ISA. It is experiencing strong increases, apparently at the expense of USPTO, where the number of search requests declined markedly.

Fig. 5.10 shows the breakdown of the numbers of international preliminary examination requests over time.



The number of demands for international preliminary examination 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 Four Offices were in charge of 85 percent of the work as IPEA in 2009 compared to 88 percent in 2005.

EPO still performed more than half of the examinations in 2009.

Chapter 6

OTHER WORK

This brief chapter contains statistics on other work done by the Four Offices, such as search or granting of intellectual property protection, that are not common to all Four Offices. The data presented below are additional to the information already presented earlier in this report.

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

The numbers of requests received for these types of other work are shown for 2008 and 2009 in Table 6.

Table 6: STATISTICS ON OTHER WORK

Activities	Year	EPO	JPO	KIPO	USPTO
Searches for national Offices & third parties	2008	17 104	-	-	-
	2009	22 941	-	-	-
Design applications	2008	-	33 569	56 750	27 782
	2009	-	30 875	57 903	25 806
Utility model applications	2008	-	9 452	17 405	-
	2009	-	9 507	17 144	-
Plant patent applications	2008	-	-	-	1 209
	2009	-	-	-	959
Re-issue patent applications	2008	-	-	-	761
	2009	-	-	-	1 019
Trademark applications	2008	-	119 185	127 910	390 765
	2009	-	110 841	126 420	351 874

Annex 1

DEFINITIONS FOR OFFICES EXPENDITURES

EPO EXPENSES (Fig. 2.2)

A. Salaries and allowances

Salaries and allowances of permanent staff as well as of all categories of temporary staff.

B. Social security benefits

Pensions, long-term care, death, invalidity and sickness coverage as well as pension taxation (taking due account of post-employment liabilities);

C. Tax adjustment transfer (one-time)

Shift of tax adjustment liability from contracting states to EPO.

D. Training and other staff expenses

Training; recruitment, transfer and leaving costs; medical care; staff welfare; European School and crèches.

E. Depreciation

Depreciation for buildings, IT equipment and other tangible and intangible assets, including the depreciation component of financial leases.

F. IT maintenance

Operating costs related to the maintenance of Electronic Data Processing (EDP) 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.

G. Building maintenance

Operating costs related to the maintenance of buildings, technical installations, equipment, furniture and vehicles, such as rent, cleaning and repairs; electricity, gas, water.

H. Patent information and cooperation

Published patent documentation on all media; public information; public relations and representation; meetings; costs of supervisory bodies; co-operation with contracting states including support to national patent Offices; assistance to third countries; Trilateral activities.

I. Miscellaneous

Travel; non-EDP purchases below capitalization threshold; supplies; security and messenger services; consultants; external audit; outsourcing; postage and telecommunications; documentation costs such as books, technical journals and external database interrogation; insurance; taxes and public levies; third-party funded projects; other miscellaneous small-scale expenditure.

JPO EXPENDITURES (Fig. 2.3)

Expense for JPO's business

Expense 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

Internationalization 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 organisation

C. Information management

Management of information for use in examination and appeals/trials

D. Publication of Patent Gazette, etc.

E. Computerization of patent processing work

F. Facility improvement

G. National Center for Industrial Property Information and Training (INPIT) operation

H. Others

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.

USPTO EXPENDITURES (Fig. 2.5)

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 & 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:

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 & 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 STATISTICS ON PROCEDURES

Here are definitions of the terms that appear in 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 EPO, where the request for examination has to be filed no later than six months after publication of the search, the rate for 2009 relates to applications mainly filed in the years 2008 and 2009.

For JPO, the period to file a request for examination has been three years from filing date since October 2001. The rate for 2009 relates to applications filed in the year 2006.

For KIPO, the period to file a request for examination is five years. The rate for 2009 relates to applications filed in the year 2004.

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

GRANT RATE

For 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 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 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).

For USPTO, an allowance rate is reported, which is based on applications allowed to be granted divided by the number of disposals. This rate includes plant patents and reissue patents in addition to utility patents. However, since utility patents comprise over 90 percent of patent applications, and over 90 percent of issued patents, this rate is almost identical to a rate based strictly on utility patents.

OPPOSITION RATE/ MAINTENANCE AFTER OPPOSITION RATE

These terms apply only to EPO.

The opposition rate for 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.

APPEAL RATE

For 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.

For all Four Offices, any subsequent litigation proceedings in national courts are not included.

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 times in search is defined as the number of pending applications in search by the end of the reporting year divided by the average monthly number of disposed searches in the reporting year.

PENDENCY EXAMINATION NUMBER OF APPLICATIONS AWAITING REQUEST FOR EXAMINATION

This does not apply to USPTO.

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

For EPO, the figure 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).

For JPO and KIPO, it indicates 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.

PENDENCY EXAMINATION NUMBER OF PENDING APPLICATION

For EPO, pending applications in examination are 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 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.

For JPO and 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.

PENDENCY EXAMINATION PENDENCY TIME TO FIRST OFFICE ACTIONS

At EPO, 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 filing at EPO to issue of this first communication in examination.

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

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

For 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.

PENDENCY EXAMINATION PENDENCY TIME IN EXAMINATION

For EPO, pendency examination in months 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 JPO and KIPO, pendency examination in months is 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 USPTO, pendency examination in months for utility, plant, and reissue applications 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.

PENDENCY OPPOSITION

This only applies to 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.

Acronyms

CY	Calendar Year [KIPO]
DOC	Department Of Commerce (U.S.) [USPTO]
DOCDB	DOCument DataBase [EPO]
EDP	Electronic Data Processing
EPC	European Patent Convention [EPO]
EPO	European Patent Office
EU	European Union
FAOM	First office Action On Merits [USPTO]
FOSR	Four Office Statistics Report
FY	Fiscal Year
IFRS	International Financial Reporting Standards
INPIT	National Center for Industrial Property Information and Training [JPO]
IP	Intellectual Property
IPC	International Patent Classification
IPR	Intellectual Property Rights [USPTO]
IPEA	International Preliminary Examination Authority
ISA	International Searching Authority
IT	Information Technology
JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
OECD	Organisation for Economic Co-operation and Development
PCT	Patent Cooperation Treaty
PDCA	Plan, Do, Check and Act [JPO]
PPH	Patent prosecution highway

P. R. China	People's Republic of China
R. Korea	Republic of Korea
RO	Receiving Office
R&D	Research and Development
SHARE	Strategic Handling of Applications for Rapid Examination [KIPO/USPTO]
SIPO	State Intellectual Property Office
TSR	Trilateral Statistical Report
U.S.	United States of America
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization

European Patent Office (EPO)

80298 Munich

Germany

www.epo.org

Japan Patent Office (JPO)

3-4-3 Kasumigaseki, Chiyoda-ku

Tokyo 100-8915

Japan

www.jpo.go.jp

Korean Intellectual Property Office (KIPO)

Government Complex Daejeon,

139 Seonsa-ro, Seo-gu Daejeon, 302-701

Republic of Korea

www.kipo.go.kr

United States Patent and Trademark Office (USPTO)

P.O. Box 1450

Alexandria, VA 22313

USA

www.uspto.gov

This report contains statistical information from the four 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.

Edited by the KIPO, 2010

Jointly produced by the EPO, JPO, KIPO and USPTO.