

Patent family data and statistics at the European Patent Office

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Summary

At the European Patent Office (EPO) a comprehensive data file called PRI is maintained of patent families. The file records are based on published patent documents, indexed by the priority number of the first patent filing, with information on subsequent patenting activities for that invention in the four major economic blocs: EPC contracting states, Japan, USA and Others. It is possible to filter the data in order to highlight the most important inventions, for example by selecting *Trilateral patent families* that lead to patenting activity in: EPC contracting states (including EPO), Japan and USA.

The relationship between patent families and subsequent filings is not one-to-one. In order to compare calculated figures from the EPO data set with an alternative system of consolidated families, it is suggested that bounds may be calculable for numbers of consolidated families by taking account of the overall numbers of network links between priority forming first filings and subsequent filings. The key to this methodology is the identification of all the links between first filings and subsequent filings in a family.

There is a timeliness problem caused by a considerable delay between the date of first filing and the appearance of a publication that can index a patent family. A method is described by which more up-to-date counts of families (numbers of priorities) can be made by augmenting the database with information that is available in the distinct filings databases at the patent offices.

The families data set can be used to investigate the patenting behaviour by individual companies, industries, countries or economic blocs, or to study changing patterns of technology in world-wide industrial research. Some representative data are presented over a series of years that show increasing trends for the numbers of world-wide first filings, for numbers of filings flowing from one country to another, for numbers of patent families making use of the PCT system, and for the numbers of families within the EPC contracting states area that make use of the EPO.

Good forecasts for numbers of patent filings at the EPO are needed for the purpose of internal resource requirements planning. An initial attempt is described to set up an econometric model for the development of subsequent filings at the EPO, based on patent families information and on concomitant variables including source country R&D stock per worker and source country GDP per capita. It may eventually be possible to generalise a successful model of this type in order to predict filings flows to and from all the major patent offices.

1. Introduction

It is well known that the statistical counts of numbers of applications at most patent offices show a home bias (van Leuven, 1996). Thus at the European Patent Office (EPO), there is a larger proportion of applications of European origin than is found at the Japan Patent Office (JPO) or United States Patent Office (USPTO). This is a consequence firstly of the tendency for industry to seek intellectual property protection in its area of operations, but also of the rule that a first patent filing can be used to establish a priority right for up to one year when making subsequent filings at other patent offices (Paris Convention, 1883).

In order to give a fair description of international patenting activity, it is important to take account of the flow of filings from the first priority forming filing to the subsequent filings in other offices. This leads to the consideration of a re-expression of filings data in terms of *patent families*. In its broadest sense a patent family encompasses all the documents related to the patents emanating from an invention, including documents that may cross relate to other inventions as well (e.g. INPADOC, 2003). We will concentrate on a simple definition that gives a full description of international filings flows and so can be used as a basis for comprehensive statistics and forecasting. This definition of a patent family does not consolidate groups of inventions within a single family and is designed for describing the flows of demand for patent rights within and between the most economically active geographical blocs.

At the EPO, a comprehensive data file (PRI) is maintained of patent families, comprising for each invention the priority number of the first patent filing and a description of subsequent patenting activities for that invention in the four major economic blocs: EPC contracting states¹, Japan, USA and Other countries. It is possible to filter the data in order to highlight the most important inventions, for example by selecting *Trilateral patent families* that lead to patenting activity in all of: EPC contracting states, Japan and USA. These data show increasing trends over time for the numbers of world-wide first filings, for numbers of filings flowing from one bloc to another, for numbers of patent families making use of the PCT system, and for the numbers of families within the EPC contracting states area that make use of the EPO. However the families data file is only as good as the underlying database of published patent documents (a file called DOCDB that is also maintained at EPO), and there is a *timeliness problem* of a considerable delay between the date of first filing and the appearance of a publication that can index as a patent family. Statistics are produced from the PRI file and published annually in a Trilateral Statistical Report (EPO, JPO, USPTO, 2002).

This paper will first describe the way in which the PRI database is constructed (Section 2). Then there will be a description of the consequences of the families definition and a comparison with other definitions (Section 3). The timeliness problem will be explained and some ways in which it can be alleviated (Section 4). A descriptive Section 5 follows that shows some of the insights into the international patenting process that can be gained by analysing patent families data rather than just raw patent filing counts. Finally Section 6 shows how patent family data can support models for forecasting patent filings counts, and Section 7 draws some conclusions.

¹ This includes filings at the national patent offices within EPC contracting states as well as filings at the European Patent Office. In the current version of PRI, extracted in spring 2003, the EPC bloc consists of the EPO and 25 EPC contracting states as at the end of 2002. This definition of the EPC contracting states will be used throughout the paper for the historical data, even though some countries joined only recently.

2. Construction of patent families

An internationally accepted reference for information on published patent documents is the DOCDB database administered at the EPO. This file is designed to be a comprehensive record of patent publications and may be the best source in the world for extracting data on families based on published documents. Unfortunately the restriction to publications means that data are not completely up-to-date, because patent publications consist of: a document that records details of the application, generally produced 18 months after the priority forming first filing; and then, only in case of a successful substantive examination by the patent office, a further document that records the grant of the patent (Bainbridge, 1992). But an exception to this practice has been that the USPTO did not publish applications until 2001, so that the only historical record of a patent at the USPTO in DOCDB until recently has been the grant document. Details of all the patent publications are recorded in DOCDB and include the references given in those publications to the underlying priority forming first filings. It should be noted that these referenced priority applications do not in fact themselves need to have been published.

The EPO developed a patent family extraction system from the DOCDB database (Elliott, 1997). An annual extraction is made from DOCDB which creates a number of large data files of patent families. During the first stage of the extraction process, the documents in the database are rearranged by the references contained therein to priorities as index variables. If no priority reference is contained in a document, it is considered to contain a priority reference to itself. This rearrangement of the documents in fact expands to some degree what is already a very large database, because it is possible for a document to contain several priority references, and in these cases the document record is replicated over all such references.

In the second stage of the extraction, smaller files are produced that contain single amalgamated records for each priority number. The records contain information on the filing activity arising from that priority in each of the four economic blocs - for each bloc a hierarchical multinomial indicator shows whether there are any unpublished references to a priority filing in the bloc, any published applications in the bloc, or finally any published grants in the bloc. These records, each of which now represents a patent family, also contain concomitant variables of interest for analysis, including: *Name of Applicant, Name of Inventor, Date and country of priority filing, Indicator of utility model applications, Patent classification, Indicator of an unpublished priority filing, Indicators of publications in national patent offices, PCT system, and Supranational offices (filing exists at EPO).*

The result of the extraction is a file (PRI), containing an unfiltered list of worldwide patent families, complete insofar as the underlying publications database (DOCDB) is complete. The data are normally extracted once per year in the spring.

3. Sociology of patent families

The "EPO definition" of patent families that underlies the PRI file is: "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".

Families can be classified in terms of the bloc of origin of the priority that defines the family, and the set of blocs (including the bloc of origin) in which the family is active. The blocs

themselves can consist of single countries or groups of countries, and are presently the *EPC contracting states*, *Japan*, *USA* and *Others*. The whole set of first filings can be termed *Monolateral patent families* (active in the bloc of origin), which in turn encompasses *Bilateral patent families* (involving at least one other bloc), and *Trilateral patent families* (active in EPC contracting states, Japan and USA, and also possibly in Others).

Various further restrictions can be applied to obtain counts of families. For example, families involving applications at the EPO, or involving PCT applications, can be sub-selected. Subdivisions can also be made by technical areas according to the patent classification.

The EPO definition is unrestrictive and optimal for describing the flows of demand for patent rights between blocs. This is a useful tool for reporting statistics on filings and for developing forecasting models for numbers of patent applications - an important task for planning future resource requirements. Furthermore, since these issues are of interest also to the JPO and USPTO for their respective systems, data on patent families according to the EPO definition are discussed by the trilateral partner offices together and published annually in a *Trilateral Statistical Report* (EPO, JPO, USPTO, 2002).

Tables 1 - 4 report counts of families in the priority (first filing) year 1997, as obtained from the 2003 extract of PRI. Table 1 shows all families broken down into Monolateral families (first filings in the bloc of origin), various types of Bilateral families, and Trilateral families. Table 2 shows the subset of all families with Bilateral and Trilateral families restricted to cases where activity in the EPC bloc includes applications to the EPO². Table 3 shows the subset obtained after restriction to cases where families involve the use of the PCT system. Table 4 shows the subset of Table 3 restricted to cases where activity in the EPC bloc includes applications to the EPO - since designation of the EPO in a PCT application is considered to constitute an application to the EPO.

The tables can be useful for delineating the production of patents from each bloc and the attractiveness of the various kinds of flows between blocs. A vast majority of families either originate in or are transmitted to the trilateral area. The percentage values in the tables show that the overall transmission rates of first filings from one bloc to another are not very high, but clearly a lot of families that contain subsequent filings outside the bloc of origin do involve a combination of EPO and/or PCT systems. There are many cases where filings move abroad to one other bloc but not to all trilateral blocs and so remain outside the Trilateral families definition. A more comprehensive description of patent family statistics in terms of countries of origin is given in Section 5.

It is possible to inspect behaviour over time by comparing sets of tables from different years. The data from the current version of PRI seem to be reliable up to 1997, after which some of the counts are incomplete due to the effect of non-publication of the patent applications. However some of the bilateral combinations as well as the monolateral classes are virtually complete for several years beyond 1997. The next section will discuss the possibility of nowcasting total counts based on comparison of the PRI file with applications data sets available at the patent offices.

² It should be noted that, in Tables 2 and 4, all published first filings at the EPO from whatever country are considered to originate in the EPC bloc. This explains the large discrepancy between 48 647 in Table 2 and 37 361 in the first part of Annex A (see Section 4). Other smaller discrepancies between Table 2 and Annex A occur because the data were extracted from versions of PRI (and EPASYS) that were available at different times.

Table 1 All patent families derived from first filings in 1997.

| Bloc of origin for which priority is claimed | First Filings in Bloc of Origin | Secondary Filings Numbers of Priorities claimed in Bloc of origin from: | | | | | | Trilateral Patent Families from bloc of origin |
|--|---------------------------------|--|------------------------|-------------------|-------------------|-------------------|-------------------|--|
| | | All other Blocs | Other Trilateral Blocs | EPC States | Japan | U.S.A. | Other countries | |
| EPC States | 129 179 | 42 700 (33.1%) | 33 880 (26.2%) | - | 21 930 (17.0%) | 27 289 (21.1%) | 27 066 (21.0%) | 15 339 (11.9%) |
| Japan | 348 329 | 45 884 (13.2%) | 43 527 (12.5%) | 25 143 (7.2%) | - | 38 639 (11.1%) | 16 481 (4.7%) | 20 255 (5.8%) |
| U.S.A. | 151 652 | 50 446 (33.3%) | 39 136 (25.8%) | 36 231 (23.9%) | 26 363 (17.4%) | - | 37 699 (24.9%) | 23 458 (15.5%) |
| Trilateral blocs subtotal | 629 160 | 139 030 (22.1%) | 116 543 (18.5%) | 61 374 (12.3%) | 48 293 (17.2%) | 65 928 (13.8%) | 81 246 (12.9%) | 59 052 (9.4%) |
| Other countries | 133 254 | 11 408 (8.6%) | 11 408 (8.6%) | 5 783 (4.3%) | 5 555 (4.2%) | 8 340 (6.3%) | - | 2 254 (1.7%) |
| Global total | 762 414 | 150 438 (19.7%) | 127 951 (16.8%) | 67 157 (10.6%) | 53 848 (13.0%) | 74 268 (12.2%) | 81 246 (12.9%) | 61 306 (8.0%) |

Table 2 Patent families derived from first filings in 1997: Secondary filings in Europe measured to EPO only.

| Bloc of origin for which priority is claimed | First Filings in Bloc of Origin | Secondary Filings Numbers of Priorities claimed in Bloc of origin from: | | | | | | Trilateral Patent Families from bloc of origin |
|--|---------------------------------|--|------------------------|--------------------|-------------------|-------------------|-------------------|--|
| | | All other Blocs | Other Trilateral Blocs | EPO | Japan | U.S.A. | Other countries | |
| EPC States | 129 179 | 42 700 (33.1%) | 33 880 (26.2%) | 48 647 (37.7%) | 21 930 (17.0%) | 27 289 (21.1%) | 27 066 (21.0%) | 14 043 (10.9%) |
| Japan | 348 329 | 45 196 (13.0%) | 42 539 (12.2%) | 19 979 (5.7%) | - | 38 639 (11.1%) | 16 481 (4.7%) | 16 079 (4.6%) |
| U.S.A. | 151 652 | 48 958 (32.3%) | 36 476 (24.1%) | 32 124 (21.2%) | 26 363 (17.4%) | - | 37 699 (24.9%) | 22 011 (14.5%) |
| Trilateral blocs subtotal | 629 160 | 136 854 (21.8%) | 112 895 (17.9%) | 100 750 (20.2%) | 48 293 (17.2%) | 65 928 (13.8%) | 81 246 (12.9%) | 52 133 (8.3%) |
| Other countries | 133 254 | 11 037 (8.3%) | 11 037 (8.3%) | 3 748 (2.8%) | 5 555 (4.2%) | 8 340 (6.3%) | - | 1 472 (1.1%) |
| Global total | 762 414 | 147 891 (19.4%) | 123 932 (16.3%) | 104 498 (16.5%) | 53 848 (13.0%) | 74 268 (12.2%) | 81 246 (12.9%) | 53 605 (7.0%) |

Table 3 Patent families derived from first filings in 1997: Families using the PCT route.

| Bloc of origin for which priority is claimed | First Filings in Bloc of Origin | Secondary Filings Numbers of Priorities claimed in Bloc of origin from: | | | | | | Trilateral Patent Families from bloc of origin |
|--|---------------------------------|--|------------------------|-------------------|-------------------|-------------------|-------------------|--|
| | | All other Blocs | Other Trilateral Blocs | EPC States | Japan | U.S.A. | Other countries | |
| EPC States | 27 999 | 24 186 (86.4%) | 17 325 (61.9%) | - | 13 281 (47.4%) | 12 657 (45.2%) | 19 885 (71.0%) | 8 613 (30.8%) |
| Japan | 8 505 | 7 615 (89.5%) | 6 915 (81.3%) | 6 162 (72.5%) | - | 5 011 (58.9%) | 5 144 (60.5%) | 4 258 (50.1%) |
| U.S.A. | 35 156 | 32 249 (91.7%) | 23 806 (67.7%) | 23 150 (65.8%) | 16 160 (46.0%) | - | 28 547 (81.2%) | 15 504 (44.1%) |
| Trilateral blocs subtotal | 71 660 | 64 049 (89.4%) | 47 422 (66.2%) | 29 312 (40.9%) | 29 441 (41.1%) | 17 668 (24.7%) | 53 576 (74.8%) | 28 375 (39.6%) |
| Other countries | 5 265 | 3 337 (63.4%) | 3 337 (63.4%) | 2 816 (53.5%) | 1 722 (32.7%) | 2 041 (38.8%) | - | 978 (18.6%) |
| Global total | 76 925 | 67 386 (87.6%) | 50 759 (66.0%) | 32 128 (41.8%) | 31 163 (40.5%) | 19 709 (25.6%) | 53 576 (69.6%) | 29 353 (38.2%) |

Table 4 Patent families derived from first filings in 1997: Secondary filings in Europe measured to EPO only and using the PCT route.

| Bloc of origin for which priority is claimed | First Filings in Bloc of Origin | Secondary Filings Numbers of Priorities claimed in Bloc of origin from: | | | | | | Trilateral Patent Families from bloc of origin |
|--|---------------------------------|--|------------------------|-------------------|-------------------|-------------------|-------------------|--|
| | | All other Blocs | Other Trilateral Blocs | EPO | Japan | U.S.A. | Other countries | |
| EPC States | 25 871 | 24 186 (93.5%) | 17 325 (67.0%) | 21 770 (84.1%) | 13 281 (51.3%) | 12 657 (48.9%) | 19 885 (76.9%) | 8 464 (32.7%) |
| Japan | 8 505 | 7 582 (89.1%) | 6 859 (80.6%) | 6 028 (70.9%) | - | 5 011 (58.9%) | 5 144 (60.5%) | 4 180 (49.1%) |
| U.S.A. | 35 156 | 32 078 (91.2%) | 22 977 (65.4%) | 21 986 (62.5%) | 16 160 (46.0%) | - | 28 547 (81.2%) | 15 169 (43.1%) |
| Trilateral blocs subtotal | 69 532 | 63 846 (91.8%) | 50 010 (71.9%) | 49 784 (71.6%) | 29 441 (42.3%) | 17 668 (25.4%) | 53 576 (77.1%) | 27 813 (40.0%) |
| Other countries | 5 264 | 3 217 (61.1%) | 3 217 (61.1%) | 2 551 (48.5%) | 1 722 (32.7%) | 2 041 (38.8%) | - | 931 (17.7%) |
| Global total | 74 796 | 67 063 (89.7%) | 53 227 (71.2%) | 52 335 (70.0%) | 31 163 (41.7%) | 19 709 (26.4%) | 53 576 (71.6%) | 28 744 (38.4%) |

Other definitions for patent families can be adopted. For the purpose of bringing together all documents connected to a particular patent application, a more general definition is that the whole web of secondary filings and priority filings that are interrelated by at least one link should be considered as a single extended family. One such definition is: "A patent family is defined as a set of patents taken in various countries to protect a single invention" (OECD, 2003). An aim of this "OECD definition" is to consolidate the patent documents so that groups of interrelated priorities and subsequent applications belong to a single family. *Triadic patent families* are those consolidated patent families that lead to patent applications at the EPO and JPO and to grants at the USPTO. DOCDB is also used as a source for extracting Triadic patent families, and the extraction process automatically imposes filters to fit the OECD definition.

We recognise that the definition of consolidated families approaches the definition often used by patent examiners and searchers when looking at individual patent applications. However it has already been mentioned above that there are advantages for the patent offices to use the EPO definition in order to quantify patent application flows for statistical descriptions and forecasting purposes. There seems to be room to define families by several approaches.

It is interesting to compare counts from the EPO system with those obtained by the OECD definition, and in particular to see to what extent families can be counted according to the OECD definition within the pre-existing EPO system. The data presented in the final column of Table 2, for Trilateral patent families that involve the EPO, are not far away from the counts of Triadic patent families made at the OECD before consolidation. However the Trilateral patent family counts are still slightly higher since they incorporate references to unpublished first filings at the USPTO as well as to published grant documents.

While there is at present no function that allows consolidation of data within the PRI file, it is possible to give bounds on the counts of consolidated families, if account is taken of concomitant information from patent offices on numbers of subsequent filings from the various blocs and average numbers of priorities per filing. The remainder of this section will show how this can be done.

Consider the following equivalence relation.

$$I = pM = y1 \quad 1.$$

Where p is the number of priorities, including those first filings that create no subsequent filings;

y is the number of subsequent filings generated from p ;

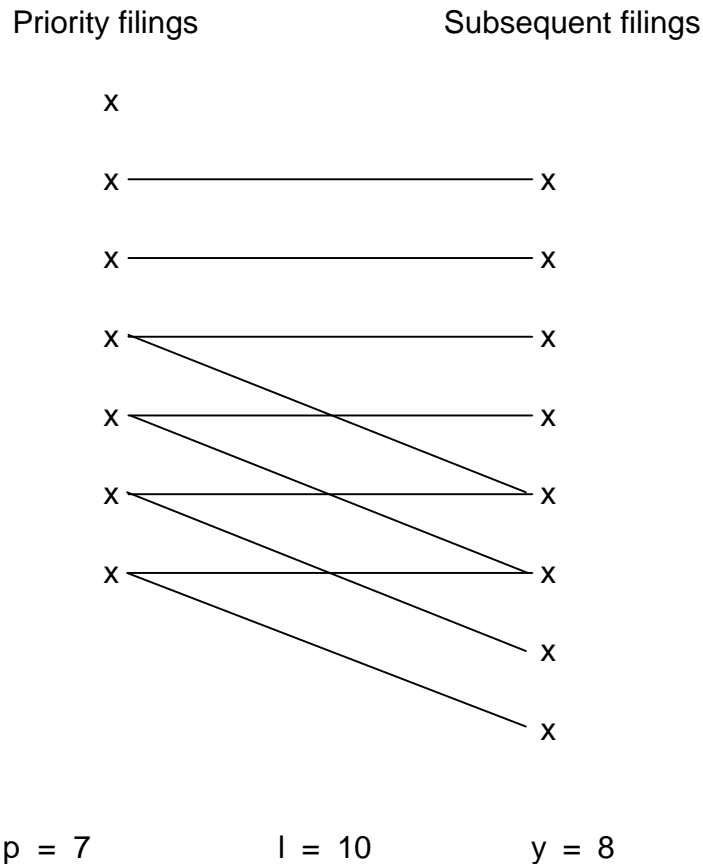
I is the total number of links between p and y .

M is the average number of links from a priority to a subsequent filing
(= average number of subsequent filings linked to a priority filing);

1 is the average number of links from a subsequent filing to a priority
(= average number of priority filings linked to a subsequent filing).

Patent Office databases can give y and 1. Counts of the numbers of patent families in the PRI file gives p . Formula 1. therefore allows I and M to be calculated.

An expression for the minimum bound for the number of bilateral patent families will be developed using an illustrative example. Imagine that $y > p$, although the argument can be fairly easily reversed if $y < p$.



The number of unconsolidated families is p . The smallest number of consolidated families c_{\min} is the size of the subset of priority filings values that are not connected indirectly to other members of the subset. In the above diagram, a model system is represented in which the given number of links ($I = 10$) have been allocated in such a way as to minimise the number of consolidated families ($p = 7$; $y = 8$; and $c_{\min} = 5$).

The following method was used to construct the above diagram, and is suggested for finding c_{\min} from given values of I , p and y :

I links need to be allocated.

- i] Lay aside those priority filings (p_0) that are known to be unconnected to secondary filings. p' priority filings remain, $p' = p - p_0$.
- ii] Write in 1-to-1 links from each of the p' priority filings to the first p' of the subsequent filings. ($I - p'$) links remain to be allocated.

- iii] Connect the remaining $(y - p')$ subsequent filings to $(y - p')$ distinct priority filings. $(l - y)$ links remain to be allocated. p' distinct families are temporarily defined.
- iv] Connect the remaining $(l - y)$ links from distinct subsequent filings to distinct priority filings. Each of these links combines two families into one consolidated family. Therefore the remaining number of consolidated families at the end of the exercise is $c' = p' + y - l$. But in case this number is negative (below zero), c' should be set to 0.
- v] Add back p_0 to determine the minimum bound, $c_{\min} = c' + p_0$.

In the above example $c_{\min} = [(7 - 1) + 8 - 10] + 1 = 5$.

In a preliminary exercise carried out in 2002, an analysis of Bilateral families in PRI for priority year 1993 gave a ratio c_{\min} / p of 67%. The corresponding reduction in the number of Triadic patent families for priority year 1993 by the process of consolidation gave 71% of the number of unconsolidated families (OECD, personal communication).

A comparable system to the above can be developed to allocate the links to give a maximum bound for the number of consolidated families. This involves allocating all the links in step iii] to a single priority node (or minimum number of nodes). The resulting expression for the maximum number of consolidated families (c_{\max}) is the integer below $c_{\max} = p_0 + p' - \frac{(l - y)}{(y - p')}$. In fact c_{\max} is usually very close to p , so in practice the bounds for the number of consolidated families are c_{\max} and p .

An extension of this methodology to calculate bounds for numbers of consolidated Trilateral patent families is not straightforward and remains to be attempted. Difficulty arises if the process of consolidation is allowed to create indirect links between priority filings in different blocs – though this is probably rather rare and may not constitute a practical problem.

4. Timeliness of patent families data

The analysis in the previous section suggests a way for the PRI file to be harmonised with the information on subsequent filings that is available in the patent office filings databases, by taking account of average numbers of subsequent filings per priority filing (M), and average numbers of priority filings per subsequent filing (1). Since the patent office filings databases are based on actual filing records, rather than patent publications, they should be more up-to-date. The information on priority references in a patent office database can therefore be used to project the overall numbers of priority filings beyond the scope of the last complete year of data in the PRI file.

Reconsider formula 1. For explanatory purposes, attention will here be restricted to Bilateral patent families that result in subsequent filings to the EPO, and the information from PRI will be related to information in the EPO filings database (EPASYS).³ First filings at the EPO can be given separately by a query of the EPASYS database, and there is no

³ In this section, priority filings that do not give rise to subsequent filings at the EPO are ignored, so $p_0 = 0$, $p = p'$.

need to estimate these numbers. First filings at the EPO are therefore not included in the analysis to estimate numbers of priorities.

For each priority year, and broken down by geographical bloc of the priority filings, the EPASYS system gives y , 1 and hence l by formula 1. As of November 2002, these data were accurate up to priority year 2000. Corresponding values of p were obtained from the PRI file of 2002. The reported values of p increased until priority year 1998 and so seem to have been fairly accurate up to then.

From the given values of p , y , 1 and l , it is possible to calculate M using formula 1., but p and hence M are only available up to 1998. A regression approach can be used to estimate the required values of M for 1999 and 2000. Approximate values of p for 1999 and 2000 can then be found from estimates of M for these years, again using formula 1. 1 can obviously be used as a predictor for M , but, since there is also the possibility of a time trend, a multiple linear regression approach was used with both 1 and priority year as predictors. Data for priority years 1993 to 1998 were used for the regression.

Annex A gives the results for each bloc of origin, obtained in terms of priority filings quoted in EPO filings⁴. For each bloc of origin, a table is given to show values over time of y , 1 , l , p and M , together with trend values for M and p . The figures for p from 1993 to 1998 are from the PRI file of 2002, but the figures for p in Years 1999 and 2000 have been obtained as a check from the newer 2003 version of the PRI file. In each case a graph is given that shows 1 and M , together with trend values for M , plotted against time. The figure given for p in Year 2000 is in each case dubious and presumably undercounted. Values for y , p and trend values for p are shown in Fig. 1.

These results show that the values of 1 and M , are often somewhat greater than 1 (the lowest possible level). The values seem to slowly trend with time and differ between blocs of origin of the first filings. 1 is high for Japan, which reflects the large number of first filings there and the tendency to package groups of first filings when making subsequent filings at the EPO. M is high for USA and Others, which may reflect a tendency to make several subsequent applications at the EPO from one first filing, possibly in order to gain market advantage. Both 1 and M have increased for USA, which probably reflects a trend towards networks of interrelated patent applications, while both 1 and M have decreased in Japan, which may reflect a policy there to improve the quality of domestic patent applications during the 1990s (JPO, 2003). M has increased over time for EPC states, which may indicate a similar trend as in USA towards making more than one subsequent filing from a single first filing.

Table 5 shows a combination of the information from Annex A taken over the various blocs of residence. Priorities from first filings at the EPO are added back to give the total demand for EPO patents.

⁴ See footnote 2 in Section 3 for an explanation of the differences for priority year 1997 between Table 2 and Annex A.

Fig. 1 a) Subsequent filings to EPO from various blocs of origin (y).

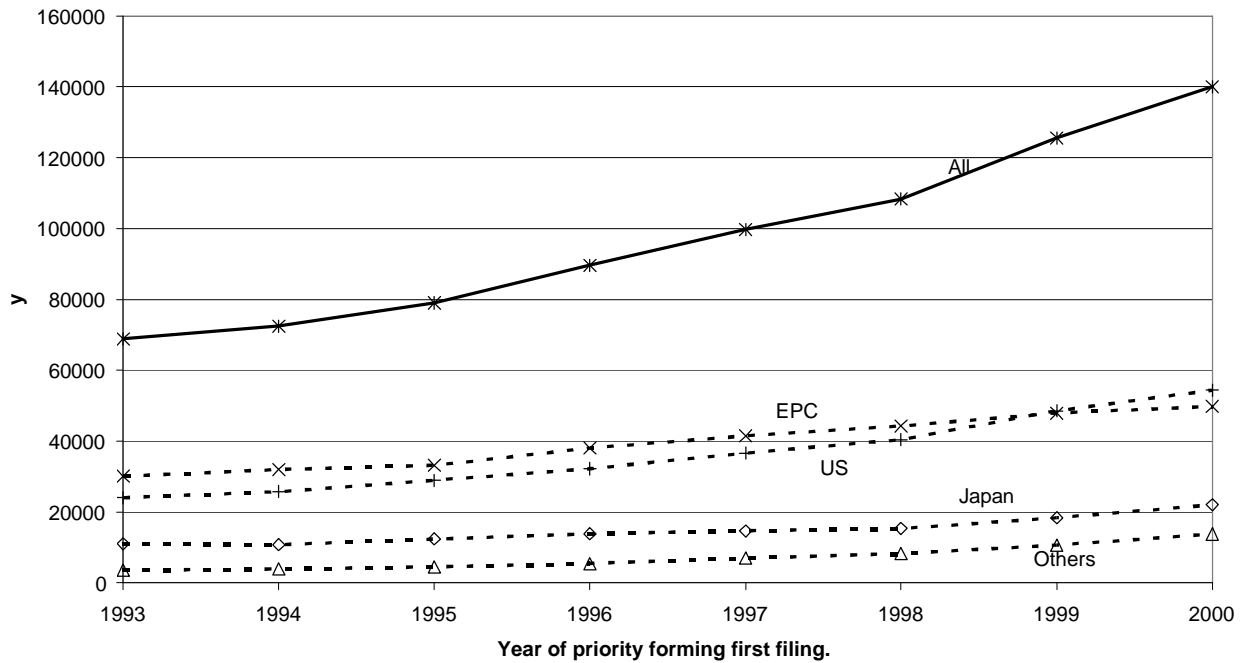


Fig. 1 b) Numbers of families leading to subsequent filings at the EPO from various blocs of origin (p).

Points are actual values from the PRI file, and lines are trends (see Annex A).

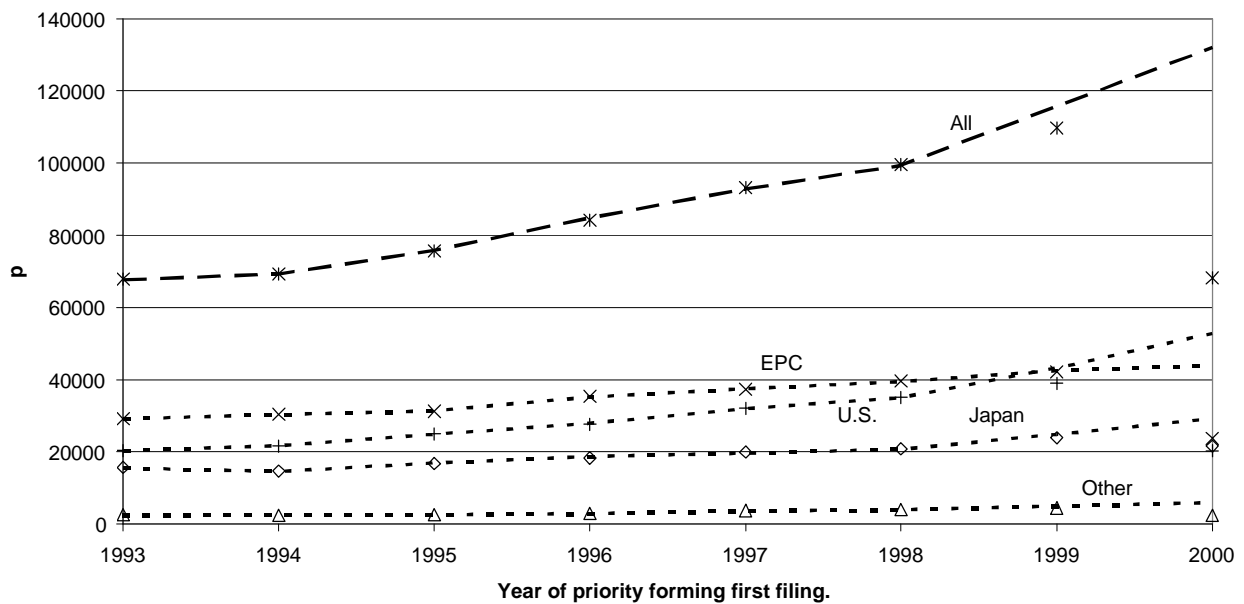


Table 5. Trends in world-wide priority filings subsequently filed at the EPO.

| Priority Year | #Priorities p | Subs. Filings y | #Priorities p (trend) | First filings at EPO | # All Priorities trend |
|---------------|---------------|-----------------|-----------------------|----------------------|------------------------|
| 1993 | 67925 | 68873 | 67680 | 6035 | 73715 |
| 1994 | 69292 | 72457 | 69319 | 6487 | 75806 |
| 1995 | 75708 | 79012 | 75846 | 7116 | 82962 |
| 1996 | 84252 | 89628 | 84819 | 8360 | 93179 |
| 1997 | 93168 | 99767 | 92858 | 10456 | 103314 |
| 1998 | 99593 | 108353 | 99366 | 12114 | 111480 |
| 1999 | 109698 | 125563 | 115654 | 13475 | 129129 |
| 2000 | (68169) | 140090 | 131942 | 16841 | 148783 |

p obtained from PRI file 2002 version (Years 1993 to 1998)

PRI file 2003 version (Years 1999 and 2000).

For Year 1999, the method predicts a worldwide total of 115 654 priorities underlying EPO applications, apart from first filings at the EPO. This is in fairly good agreement with the figure that is currently available in PRI file 2003 version (109 698). The tables in Annex A suggest that the estimates for 1999 are good for priorities originating in EPC contracting states and Japan, but there is an undercount of the order of 10% for priorities from US and Other countries. It is possible that the publications records for 1999 from US and Others countries are not yet complete in the PRI file 2003 version.

The technique of estimating M , and then using this to estimate priority filings in years 1999 and 2000, seems to be fairly accurate and recommendable, at least with regard to subsequent filings at the EPO. An extension of this approach to calculating numbers of Trilateral patent families for recent years could be explored by estimating trends in proportions of bilateral flows that appear in Trilateral families, and applying projections of these trended ratios.

5. Statistical description of patent filing patterns

Data on bloc-to-bloc transfers have been shown above in Section 2, Tables 1 – 4. But it is also interesting to take a look at data generated by country of origin, rather than bloc of origin. At the present time the structure of the PRI file does not allow target countries to be distinguished within blocs however.

Annex B gives a detailed description of worldwide patent family trends over time, based on the data that are available in the PRI file 2003 version for representative priority filing years 1979, 1984, 1989, 1994 and 1999.

Over the period described, there has been a rising trend in priority filings, with the exception of a slight cyclical downturn for Others in 1994 (Table B1). The level and proportion of Japanese and EPC contracting states priority filings that form patent families in at least one other bloc have increased over the period 1984-1994, as has the level and proportion of first filings that form Trilateral patent families. For the U.S., however, the proportion of priority filings that form Trilateral patent families has been falling since the mid-1980s. This decline may not necessarily reflect a decrease in the propensity to patent abroad. One possibility (held by critics of the U.S. patent system) is that the U.S. experienced an increase in marginal patent applications due to a relaxation of novelty and non-obviousness standards. This would explain the large increase in first filings and the

little impact this had on subsequent international filings (since those patents are not valuable enough to warrant filing abroad). But another possibility is that the cost of patenting has increased for U.S. patentees (particularly the translation costs in the EPC contracting states, Japan, and Others, and possibly the costs of agent representation), thus lowering the rate of subsequent filings. Yet another possibility is that, since patentability standards vary across countries, U.S. applicants may file for protection for certain inventions (such as software, biotechnological innovations, internet-related innovations, and so forth) at home but not elsewhere where those inventions are not considered patentable subject material.

Differences exist between the main technical fields of the International Patent Classification, or IPC (WIPO, 2000), in terms of the numbers of first filings per bloc and in the transmission rates to the other blocs (Table B2). Fig. 2 summarises the data by blocs of origin for priority years 1984, 1994 and 1999, in terms of numbers of first filings, numbers of families with subsequent filings in at least one other bloc, and Trilateral patent families. The diagram also shows the breakdowns of these counts by proportions in each of the IPC main technical areas. (See Table B2 for the names of the industrial areas indicated by the key letters A - H).

Overall, the rates of international patent family formation by fields increased up to 1989, but then fell slightly by 1994 (Table B3). This reflects a greater increase in priority filings (i.e. the denominator) than in subsequent filings (i.e. numerator). However, the rates of international patent family formation by Others as a whole have generally increased throughout the sample period.

The information of transfer rates from world wide first filings to subsequent EPO filings (Table B4), shows that the EPC contracting states are the source of most EPO subsequent filings, followed by the U.S., Japan, and Others. The general rise in transfer rates over time (particularly after 1985) reflects a “centralisation effect” in which patent applicants discovered the option of using the EPO system that had started in 1978.

Among EPC contracting states, Germany is the leading source of EPO filings (over 10 000 filings per year since 1990), with a transfer rate exceeding 20%; that is, a little more than one-fifth of Germany’s priority filings are filed subsequently at the EPO. Next are the U.K., France, Italy, and Switzerland, whose transfer rates are higher. Switzerland in 1995, for example, had over half of its first filings subsequently finding their way to the EPO. France in 1995 had 43% of its priority filings subsequently filed at the EPO. On the other hand, negligible amounts of subsequent filings at the EPO are sourced from small countries like Monaco. There were less than 100 priority filings in each of Greece, Ireland, Portugal, and Turkey that led to subsequent patent applications at the EPO.

Overall the mean annual number of families involving subsequent EPO filings per country of origin is 1 401 (with a coefficient of variation⁵ of nearly 200%, reflecting the wide variation among the EPC contracting states). The average transfer rate from EPC contracting states is 22.6%. By comparison, the mean number of annual subsequent EPO filings from the U.S. and Japan exceed 10 000 with much less variation over time (that is, the coefficient of variation is about half). The average transfer rate for the U.S. is 19.9% (meaning that about one-fifth of U.S. priority filings find their way to the EPO within a year). For Japan, the average transfer rate is under 5% (due to its large number of domestic priority filings that are not destined to become foreign filings).

⁵ I.e. The standard deviation as a percentage of the mean.

Fig 2: Penetration of Families from each Bloc of Origin

Figures in the centre of each circle show first filings; Families moving to other blocs; and Trilateral patent families

Circles give proportions of filings per IPC Main Technical Area (Inner circle: First Filings; Middle circle: Families moving to other Blocs; Outer circle: Trilateral patent families).



From Others, Australia has been the leading source of EPO filings, but Korea has been catching up and may well have exceeded Australia by now. The transfer rate of Korean priority filings to the EPO is only 2%, however, while that of Australia exceeds 10% per year. Canada and Israel, as mentioned before, are also important sources of subsequent EPO filings, though the quantity of filings is comparable to that of medium-income EPC states, such as Austria, Denmark, and Finland. Overall, Others transfer on average 6.9% of first filings to the EPO.

The key observations on filings at the EPO are as follows: Most families that have patent activity only in EPC contracting states involve first filings at the national offices to establish priority rights. From a volume of such filings that exceeds 90 000, only a small proportion involve first filings at the EPO, but this proportion has increased in recent years. The PCT involvement is rather low when an applicant files only in the EPC contracting states. But the use of the PCT has been expanding considerably over the period from 1985 to 2000.

For patent families originating in the EPC contracting states (Table B5), when families involve only the EPC contracting states and Japan, the routes of choice are still filing at the national office and EPO directly and the share of PCT involvement is small. The same pattern applies for patent families originating in the EPC contracting states and involving only the EPC contracting states and USA.

For Trilateral patent families, there is a more significant use of the direct-EPO route. Almost twice as many on average directly file at the EPO instead of using national filings (i.e. 9 908 vs. 5 487). For patent families involving all four blocs, direct EPO filings are nearly four times as frequent as national filings (i.e. 12 929 vs. 3 716). The role of the PCT (either PCT or EPO via the PCT) is more significant when applicants choose to file in all four blocs. The PCT route is also popular for Trilateral patent families as well as patent families involving the EPC, US, and Others; the PCT route is modestly used when applying to the EPC, Japan, and Other. In other words, the U.S. destination appears to be important when taking the PCT route.

6. Patent families as a basis for forecasting future filings

At the EPO, good forecasts for numbers of patent filings are needed for the purpose of planning internal resource requirements. As a supranational office, it is relevant for the EPO to attempt to do this by modelling the developments of numbers of patent filings within each bloc, the inter-bloc patent filings flows and the proportions of such flows in Europe that involve the EPO.

The following describes some initial forecasting exercises using patent family data. The objective is to estimate numbers of families involving subsequent filings at the EPO. In order to test whether a forecasting model produces reasonable results, it is necessary to compare the forecasts with actual data that are already available. Thus, in what follows, we estimate models of subsequent filing behaviour for the sample years 1985 and 1990, corresponding to the priority filing years 1984 and 1989. The estimated models are then used to generate out-of-sample forecasts for families containing subsequent filings in 1995 and 2000. We then compare these forecasts with actual data. Data for 1980 data were not included in the estimation period due to a lack of observations for some of the independent variables and because many of the present EPC contracting states had not yet joined. The model is rather crude since it uses only two sampled years. It will be seen

that it generally over predicts for 2000, which is consistent with the fact that there is a timeliness problem in reporting families incorporating subsequent filing activity for 2000.

We tried several models and used the mean squared errors as a gauge of the extent to which the model deviates from real data.⁶ The model that yielded the best fit and smallest mean squared errors consists of the following independent variables:

- i] First Filings (in 1989 and 1984)
- ii] Stock of R&D per worker
- iii] GDP per capita
- iv] Membership in the EPO (dummy variables)

Here, first filings refer to priority filings of the source country (not necessarily first filings at the EPO). The stock of R&D per worker is in real 1995 U.S. dollars. The stock assumes a 10% rate of depreciation⁷. The reason that stocks are used rather than flows is that in some (if not many) cases innovations are the result of cumulative research efforts rather than the efforts within any particular period. GDP per capita is also in real 1995 dollars (and produces similar qualitative and quantitative results as GDP per worker). Membership in the EPO captures the strong preference of EPC contracting states to file subsequently within their own bloc.

It is possible that R&D and GDP could also stimulate the first filings themselves. That is, both affect the innovative potential of a source country and thus should be viewed as determinants of patentable inventions; whereas the forecasting exercise here is not to determine the supply of inventions but the transfer rate or propensity to make subsequent filings. However, a key justification for using R&D and GDP as explanatory variables in this situation is that they also measure the investment effort (or possibly quality level) of a source nation's patentable inventions, as there is certainly a positive, albeit imperfect, correlation between R&D investment and productivity on the one hand and inventive level on the other. Thus, the greater the productivity of a source country's resources and the greater it's R&D stock per worker, the greater the number of innovations that are worthy of patenting subsequently in other markets. Support for this view comes from previous studies on patent valuation, which indicate that worthy patents can be "screened" by observing which ones are renewed frequently over time or which ones are used to apply for patents in more destinations (markets), and thereby form larger families⁸. Thus, on theoretical grounds, R&D and GDP could stimulate both first and subsequent filings. The greater the R&D content, for example, in a nations' supply of patentable inventions, the

⁶ That is, the mean of the squares of the differences between actual and predicted observations.

⁷ More specifically, $R = f + 0.9 R(-1)$, where R is the stock of R&D and f the flow of R&D investment. $R(-1)$ refers to the one-period lag of R&D stock. As 10% of the stock depreciates, only 0.9 times $R(-1)$ is left for the next period. Given data on f and a starting value for R (say $R(0)$), we can generate R for all other periods. The source of data on f is the OECD (www.sourceoecd.org) and UNESCO Statistical Yearbooks, various years, which provides data for non-OECD countries. The initial value $R(0)$ is obtained by taking the initial value of $f(0)$ and dividing by the depreciation rate and average growth rate of investment flows. This can be seen by recursively solving the difference equation ($R = f + 0.9 R(-1)$) backwards in time.

⁸ For studies that infer patent value from patent renewal behaviour, see Pakes (1986), Schankerman et al. (1986), and Lanjouw, Pakes, and Putnam (1998). For studies that infer patent value from patent family size, see Harhoff et. al. (2003), Lanjouw and Schankerman (1999), and Putnam (1996). Harhoff et. al. (p. 1343), for example, argue that "patents representing large international patent families are especially valuable."

greater is the proportion of priority filings that will be likely to be used as a basis for subsequent filings in other markets.

In terms of econometric specification, natural logarithms are taken of all the dependent and independent variables (except for EPO Membership); which allows the coefficient estimates to be interpreted in terms of elasticities. The purpose of dividing variables by the labor force is to control for heteroscedasticity. It is also plausible that there are individual specific errors. We therefore provide both ordinary least squares (OLS) and generalized least squares (GLS) estimates⁹. Generally the results are similar; though in terms of forecasting performance, the OLS results generally produce lower mean squared errors.

Table 6. Estimation of Patent Families that generate Subsequent Filings at the EPO.

Sample Period: 1985 and 1990
Number of Source Countries: 40

Dependent Variable = \log_e (# Families containing Subsequent EPO filings per Source Country Worker)

| Independent Variables | OLS | GLS |
|--|----------------------|----------------------|
| Constant | -21.04*** (1.455) | -21.67*** (1.712) |
| log (Source Country First Filings per Worker) | 0.449*** (0.083) | 0.439*** (0.100) |
| log (Source Country Real R&D Stock per Worker) | 0.669*** (0.193) | 0.496** (0.244) |
| log (Source Country Real GDP per capita) | 0.895*** (0.212) | 1.104*** (0.273) |
| EPO Membership | 0.772*** (0.241) | 0.515** (0.264) |
| Adjusted R-squared | 0.924 | 0.926 |
| No. of Observations | 70 | 70 |

Notes: R&D and GDP are in real 1995 dollars. EPO membership = 1 if the source country is an EPC contracting state and zero otherwise. Standard errors are in parentheses, and *, **, and *** are significance levels of 10%, 5%, and 1% respectively.

Table 6 shows the results of regressing families containing subsequent filings at the EPO on the independent variables mentioned above. The number of observations is 70 even though there are 40 source countries and two sample years (1985 and 1990). This is

⁹ Further details on OLS vs. GLS can be found in Chapter 14 of Greene (1997).

because data for some of the independent variables (such as R&D) are not available for certain countries in earlier periods.

Both OLS and GLS estimates suggest that the “elasticity” of subsequent EPO filings with respect to first filings is about 0.44%. That is, a 1% increase in first filings leads to a 0.44% increase in subsequent filings at the EPO. Note that 0.44 does not represent the fraction of first filings which subsequently go to the EPO, but rather the average responsiveness of subsequent filings to first filings.

The elasticity of subsequent filings with respect to the stock of R&D per worker is about 0.7% under OLS and somewhat lower (about 0.5%) under GLS. The responsiveness of subsequent filings at the EPO is quantitatively greatest with respect to GDP per capita (or productivity), at 0.895% and 1.104% respectively under OLS and GLS estimation. GLS allows for individual (source country-specific) random errors and this reduces the impact of R&D while raising that of GDP. GLS estimation also reduces the magnitude and statistical significance of membership of an EPC contracting state. Generally, EPC contracting states have a higher (and statistically significant) propensity to file subsequently at the EPO. The coefficient estimate under GLS may be lower because the random errors may partially capture this individual EPO member effect.

Overall the model explains about 92% of the variation in the data and the coefficient estimates are strongly significant. Hence the fit of the model to existing data is very good. This model should produce reasonable projections conditional on the structure or the pattern of international patent family formation remaining fairly stable; that is, conditional on there being no major “structural breaks.”¹⁰

For example, forecasts using the OLS estimates were obtained as follows: from column 1, Table 6, the OLS coefficient estimates imply that the fitted variable is:

$$\text{Log } \hat{Y}_t = -21.04 + 0.449 \log X_{1t} + 0.669 \log X_{2t} + 0.895 \log X_{3t} + 0.772 \text{ EPO},$$

where

\hat{Y}_t = the “fitted” count of families containing subsequent EPO filings per Source Country Worker at time t

X_{1t} = source country first filings per worker at time t

X_{2t} = source country real R&D stock per worker at time t

X_{3t} = source country real GDP per capita at time t

EPO = 1 if the source country is an EPO state, and zero otherwise

¹⁰ We had also included a time trend – and time dummies – to determine if there were any omitted factors that correlated with the growth or movement of subsequent EPO filings over time, but found these variables to be statistically insignificant. We also found the errors not to vary with previously known information, such as GDP and so forth. This is an informal way of checking whether the forecast errors are random or systematic in some way.

In other words, $\log \hat{Y}_t$ is the model's expected value of $\log Y_t$. To get a forecast for the next period (time $t+1$) – namely $\log \hat{Y}_{t+1}$ – we need values for X_{1t+1} , X_{2t+1} , and X_{3t+1} . In our case, $t + 1$ corresponds to either 1995 or 2000, for which we have the data, including for Y . But we estimate the model prior to 1995 in order to see how well it would have predicted Y in 1995 and after, conditional on the values for the X 's.

Now, to get the predicted counts of families containing subsequent EPO filings (in natural units, not in logs), we take exponentials; i.e. $\exp(\log \hat{Y}_{t+1})$ times the number of source country workers at time $t+1$. These forecasts are shown in Table 7 for both OLS and GLS methods.

Table 7 also provides a comparison of the actual and predicted values for a given period (subsequent filings in 1995 and 2000). To generate these forecasts, we used the coefficient estimates from Table 6 and substituted the actual values for the independent variables (e.g., first filings from one year earlier, real GDP per capita and R&D stock per worker) that were realized in 1995 or 2000.¹¹

The deviation between actual and forecasted filings is largest for Japan. For 1995, while the model predicts more than 27 000 families involving subsequent filings from Japan at the EPO, the actual figure is 16 793. For the U.S., in 1995, the model under-predicts families involving subsequent filings at the EPO (i.e. 20 236 instead of 24 990). For EPC contracting states like Germany, France, Italy, Netherlands, Denmark, and Austria, the model's forecasts using OLS estimates are very near the actual values for 1995. The model tracks Year 2000 filings less well, largely since the 2000 figures are of a preliminary nature. The general pattern is that the model over-predicts families involving subsequent filings at the EPO. For example, for Japan about 34 000 families were expected (against 22 000 actual), for the U.S. 28 000 (against 20 000 actual), and for Germany about 18 000 (against 14 000 actual). It remains to be seen, after the PRI file data have been updated, how well the model's predictions will be borne out¹².

The bottom of Table 7 shows the overall sums of actual and predicted subsequent filings. For 1995, for example, OLS estimation predicts a total of 5 182 more filings than the actual sum of 75 732, which is an over-prediction rate of just 6.8%. The GLS predictions are even tighter, predicting 415 more filings than actual, an error of only about 0.5%. The GLS estimates yield higher mean squared errors but predict total filings better than OLS. This may be due to the fact that OLS gives greater weight to the outliers (namely the observations from the big three patenting countries: U.S., Japan, and Germany). Thus, GLS under-predicts the subsequent filing behaviour of these countries but gives greater weight to the smaller and medium observations. The relatively small (total) forecast errors are a testament to how closely patent filing behaviour is, or can be, tracked by priority filings, R&D stocks, and productivity. Nevertheless the large deviations for families originating in Japan and US suggest that the model could be improved.

In Fig. 3, we plot the OLS forecasts against the actual numbers for 1995 after removal of the filings from the top three source countries (U.S., Japan, and Germany). The degree

¹¹ Of course, to make forecasts or projections beyond 2003, we need to provide forecasts for these independent variables would be needed beyond 2003.

¹² Note that there are 38 countries reported in Table 7. Both Luxembourg and Monaco were dropped because data on R&D were not available for 1995 and 2000.

of agreement between forecasted and actual values seems reasonable for most of the countries considered.

Table 7. Forecasts of numbers of families containing subsequent Filings to EPO in 1995 and 2000.

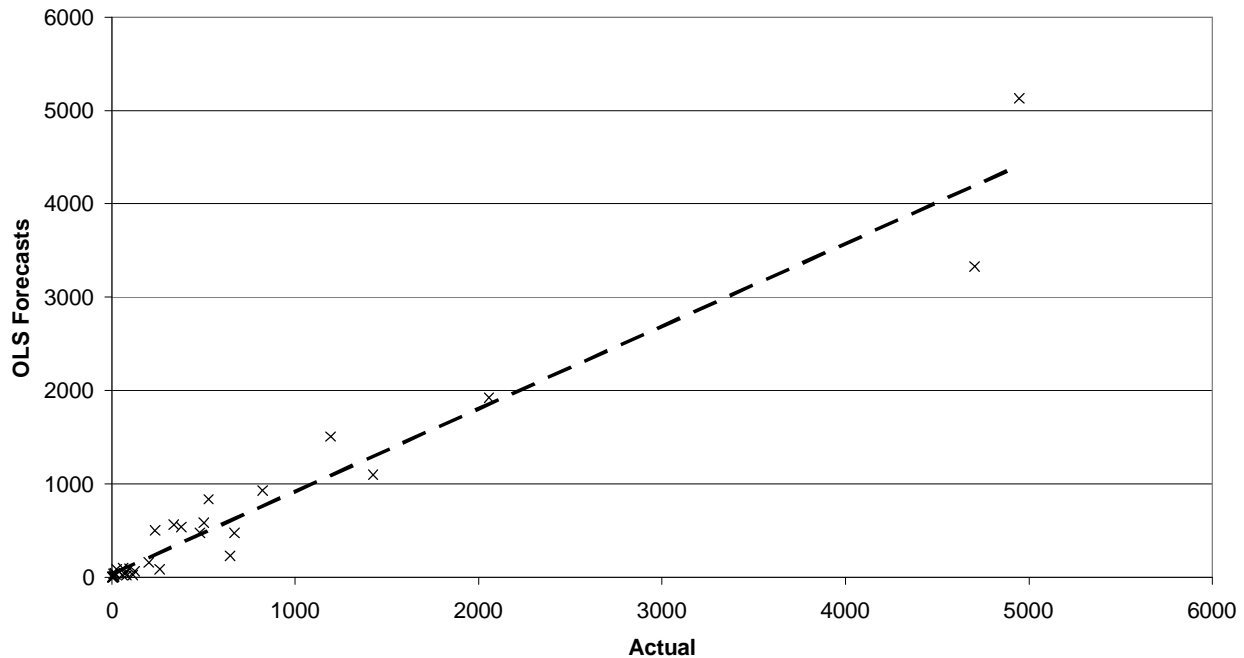
| (a) 1995 | | | | (b) 2000 | | | |
|--------------------|--------|-----------------|---------|--------------------|--------|-----------------|---------|
| | Actual | Forecasts Using | | | Actual | Forecasts Using | |
| | | OLS | GLS | | | OLS | GLS |
| Argentina | 13 | 8 | 10 | Argentina | 23 | 12 | 16 |
| Australia | 668 | 473 | 510 | Australia | 304 | 703 | 753 |
| Austria* | 501 | 585 | 511 | Austria* | 491 | 789 | 677 |
| Belgium* | 234 | 501 | 410 | Belgium* | 113 | 546 | 447 |
| Brazil | 60 | 97 | 108 | Brazil | 31 | 124 | 139 |
| Bulgaria* | 7 | 2 | 2 | Bulgaria* | 0 | 2 | 2 |
| Canada | 378 | 540 | 562 | Canada | 174 | 447 | 471 |
| China | 79 | 20 | 25 | China | 112 | 45 | 55 |
| Denmark* | 479 | 475 | 432 | Denmark* | 285 | 677 | 600 |
| Finland* | 646 | 231 | 247 | Finland* | 516 | 846 | 681 |
| France* | 4947 | 5130 | 4003 | France* | 3990 | 6294 | 4967 |
| Germany* | 13851 | 13923 | 11102 | Germany* | 14127 | 17820 | 14157 |
| Greece* | 20 | 31 | 31 | Greece* | 22 | 56 | 53 |
| Hungary | 57 | 25 | 22 | Hungary | 21 | 23 | 22 |
| India | 4 | 1 | 1 | India | 31 | 2 | 2 |
| Ireland* | 95 | 94 | 82 | Ireland* | 44 | 151 | 134 |
| Israel | 261 | 85 | 83 | Israel | 168 | 126 | 118 |
| Italy* | 2056 | 1926 | 1602 | Italy* | 2157 | 2085 | 1754 |
| Japan | 16793 | 27803 | 29540 | Japan | 21653 | 34456 | 36334 |
| Korea | 527 | 834 | 807 | Korea | 1123 | 1664 | 1570 |
| Malaysia | 5 | 1 | 1 | Malaysia | 16 | 2 | 3 |
| Mexico | 6 | 3 | 4 | Mexico | 3 | 5 | 7 |
| Netherlands* | 821 | 930 | 757 | Netherlands* | 568 | 1395 | 1139 |
| New Zealand | 75 | 47 | 52 | New Zealand | 68 | 57 | 64 |
| Norway | 201 | 157 | 179 | Norway | 102 | 233 | 266 |
| Philippines | 4 | 0 | 0 | Philippines | 1 | 0 | 0 |
| Poland | 16 | 40 | 38 | Poland | 12 | 44 | 46 |
| Portugal* | 8 | 36 | 34 | Portugal* | 10 | 45 | 42 |
| Romania | 6 | 4 | 4 | Romania | 2 | 2 | 2 |
| Russia | 125 | 65 | 67 | Russia | 70 | 72 | 76 |
| South Africa | 115 | 23 | 25 | South Africa | 45 | 27 | 29 |
| Singapore | 26 | 86 | 105 | Singapore | 40 | 68 | 82 |
| Spain* | 337 | 564 | 507 | Spain* | 364 | 815 | 731 |
| Sweden* | 1424 | 1098 | 854 | Sweden* | 585 | 1577 | 1210 |
| Switzerland* | 1192 | 1508 | 1249 | Switzerland* | 549 | 1298 | 1086 |
| Turkey* | 1 | 4 | 5 | Turkey* | 4 | 13 | 14 |
| UK* | 4704 | 3330 | 2547 | UK* | 3375 | 4240 | 3303 |
| USA | 24990 | 20236 | 19629 | USA | 20358 | 28538 | 27965 |
| Sum | 75732 | 80914 | 76147 | Sum | 71557 | 105298 | 99016 |
| Sum EPC | 31323 | 30367 | 24374 | | 27200 | 38648 | 30998 |
| Mean Square Error: | | 3855441 | 6686206 | Mean Square Error: | | 5402353 | 7275540 |

Notes:

OLS and GLS estimates are from the regression models shown in Table 6.

* indicates EPC contracting states as of 31/12/2002. See Footnote 1.

Figure 3: Families containing EPO Subsequent Filings in 1995; excluding Germany, Japan and U.S.: OLS forecasts vs. Actual by Country of first filing.



It should be remembered that the forecasts in this section are for families involving subsequent filings at the EPO. Therefore in terms of the argument that was given in Section 3, formula 1, the measurements are of p rather than of y . In order to compare the forecasted subsequent filings with subsequent filings that are actually recorded in the EPO database (EPASYS), it is necessary to apply formula 1 to give $y = (M/1)p$. Applying values from Annex A, we can see for example that, for priority year 1999, the forecast for subsequent filings at the EPO from Japan is $(1.093/1.478) \cdot 34\,456 = 25\,481$, compared to 18 385 actual. Similarly the forecast for subsequent filings at the EPO from US is 32 067, compared to 48 569 actual, and the forecast for filings at the EPO from EPC contracting states is 45 536, compared to 47 945 actual.

The above discussion implies that the timeliness problem for the families data makes the exercise more like a now-casting exercise rather than a forecasting exercise. It is hoped to augment the families counts of filings flows with proxy counts of up-to-date filings numbers at each Trilateral Office, using methods such as that described in Section 4 above, and so eventually to develop efficient forecasting models. We hope to improve the methodology in the future, particularly by forecasting direct filings at the EPO separately from the designations of the EPO in PCT applications. Comparisons in Section 3, Tables 2 and 4 have already shown the greater degree of internationalisation of PCT applications compared to other types of filings.

It may eventually be possible to generalise a successful model of this type in order to predict filings flows to all the major patent offices. An example of the kind of model that could be developed using patent families data is a *simultaneous equations based model* for international patent filings flows. The patenting flows between blocs depend on domestic filings in each bloc, the attractiveness of international markets and the trend towards globalisation of world trade over time. One possible formulation involves filings

that flow from one bloc to another as a function of the domestic filings in target and origin blocs, together with additional dependencies on the contra-flow of filings from the target bloc to the origin bloc, and also possibly for the flow from the third bloc to the target bloc (Hingley and Nicolas, 2003).

7. Conclusions

It has been shown above that a simple definition of patent families (*1 priority = 1 family*) enables interesting data to be obtained on both the first filings throughout the world and the subsequent filings activities based on those original first filings. In order to find subsets of families that represent the most important inventions, it is possible for the user of the system to apply a filter in order to isolate the economically more important families, such as a Trilateral patent families indicator that requires an application to be made in all trilateral blocs. However different filters may be appropriate for different users - for example one user may consider Europe to be specified only if there is a filing to the EPO, while another user would allow "Europe" to consist of filings either to a national office of an EPC contracting state or to the EPO.

Similar considerations apply to the user's definition of what constitutes an invention. One user may feel that the group of priority filings included in a set of interrelated patent documents taken together constitutes a single invention, in which case he/she will wish to consolidate families beyond the definition that has been used here, while another user wishes to consider every priority filing as a separate invention. Therefore it seems appropriate to provide data on priorities based families and allow the user to apply his/her own consolidation tools as wished for a specific purpose. It has been shown in Section 3 that some simple approximations to consolidation can be made with the existing PRI file, but undoubtedly improvement to the system is required if user-based consolidation is to be allowed routinely.

Bearing in mind the above factors, it would seem to be a worthwhile goal to move towards producing a centralised database of priorities based families, with a view to allowing researchers to make remote queries and to apply their own filters in order to obtain data breakdowns of interest. This seems a better idea than to release a single set of a smaller number of pre-filtered patent families data, since the method of filtration may not be one wished for by all the users of the system. The PRI file is not yet adequate as such a centralised database, but it may be possible to augment it at some future stage in order to make it so. The database could also be used for more specific microeconomic studies of patenting behaviour of individual applicants or industrial sectors.

One of the main problems with current families databases is that they are restricted to information gained from published patent documents, and so are necessarily never completely up-to-date. However it has been argued in Section 4 that recent data can be estimated with a reasonable degree of accuracy when PRI is supplemented with data obtained from the filings databases available at the patent offices, by using trend projections of average numbers of subsequent filings linked to a first filing. A further improvement could be made by swapping information between patent offices on priority references in unpublished patents at each office, but these data could not be publicly released under existing rules because of the duty of confidentiality towards the applicants. The restriction to published data also means that any families that lead to no publications at all will not appear, but since these normally

relate to applications that are quickly dropped, it can be assumed that this is an implicit filter that is unavoidable but reasonable.

The tables of statistics discussed in Section 5 and Annex B show that patent families data can give enhanced information on the development of international patent filing practices. Increases in overall numbers of filings have taken place all over the world in recent years, but the families data allow the filings series to be broken down into a component due to increased inventiveness (represented by first filings) and a component due to increased internationalisation (represented by filings flows to subsequent filings at foreign patent offices). This added dimension can be used as a basis for developing more realistic structural models designed to improve forecasts of the world-wide patenting flows, and some first steps towards this have been discussed in Section 6. At present the timeliness problem means that such forecasting activities may be restricted to describing what has really happened in the recent past rather than what may happen in the future. But disparate data sources from different offices can not easily be combined on a timely basis, and so a good description of the present state of affairs in the patenting world may in fact be better than what has previously been available. It is to be hoped that improved techniques may allow such models to move forward to describe what will happen in the future as well as what may be happening now.

References

Bainbridge, D.I. (1992), "Intellectual Property", Pitman, London.

Elliott, B. (1997), "Trilateral Statistics, Supply of family data from DOCDB for statistical analysis by the Controlling Office", European Patent Office internal paper.

European Patent Office, Japan Patent Office, United States Patent and Trademark Office (2002) "Trilateral Statistical Report, 2001 edition". With statistical annex.
http://www.european-patent-office.org/tws/tsr_2001/index.php

Evenson, R. (1990), "Intellectual Property Rights, R&D, Inventions, Technology Purchase, and Piracy in Economic Development: An International Comparative Study," in R. Evenson and G. Ranis (eds.) *Science and Technology: Lessons for Development Policy*, Westview Press, Boulder CO, pp. 325-355.

Gadbaw, R. and Richards, T. (eds.) (1988), *Intellectual Property Rights: Global Consensus, Global Conflict*, Westview Press, Boulder, CO.

Greene, W. (1997), *Econometric Analysis*, Third Edition, Prentice Hall.

Harhoff, D., Scherer, F., and Vopel, K. (2003), "Citations, Family Size, Opposition and the Value of Patent Rights," *Research Policy*, Vol. 32, pp. 1343-1363.

Hingley, P., and Nicolas, M. (2003), "Methods for forecasting numbers of patent applications at the European Patent Office", 1st conference on European Policy for Intellectual Property, Munich, 24th April 2003. Also submitted to *World Patent Information*.

INPADOC (2003), Patent Family System, http://www.european-patent-office.org/inpadoc/pfs_index.htm

Japan Patent Office (2003), *Annual report 2002*.

Khan, M. (2003), "OECD triadic patent families", WIPO - OECD Workshop on Statistics in the Patent field, Geneva, 18 & 19 September 2003.

Lanjouw, J. O. and Schankerman, M. (1999), "The Quality of Ideas: Measuring Innovation with Multiple Indicators," National Bureau of Economic Research Working Paper No. 7345.

Lanjouw, J. O., Pakes, A., and Putnam, J. (1998), "How to Count Patents and Value Intellectual Property: Uses of Patent Renewal and Application Data," *Journal of Industrial Economics*, Vol. 46, No. 4, pp. 405-433.

van Leuven, J.W.M. (1996), "Patent Statistics as indicators for innovation", *Patent World*, November/December 1996, pages 20 - 27.

Okada, Y. (1992), *The Law and Economics of the Patent System*, Staff Paper, Shinshu University.

Pakes, A. (1986), "Patents as Options: Some Estimates of the Value of Holding European Patent Stocks," *Econometrica* Vol. 54, pp. 755-784.

Paris Convention (1883), "Paris Convention for the Protection of Industrial Property", <http://www.wipo.int/clea/docs/en/wo/wo020en.htm>

Park, W. G. (2001), "Intellectual Property and Patent Regimes", Chapt. 4, in J. Gwartney and R. Lawson (eds.) *Economic Freedom of the World Annual Report 2001*, Fraser Institute, Vancouver, B.C.

Putnam, J. (1996), *The Value of International Patent Rights*, Ph.D. thesis, Yale University, New Haven, CT.

Putnam, J. (2003) (ed.), *Intellectual Property Rights and Innovation in the Knowledge-Based Economy*, Industry Canada and University of Calgary Press.

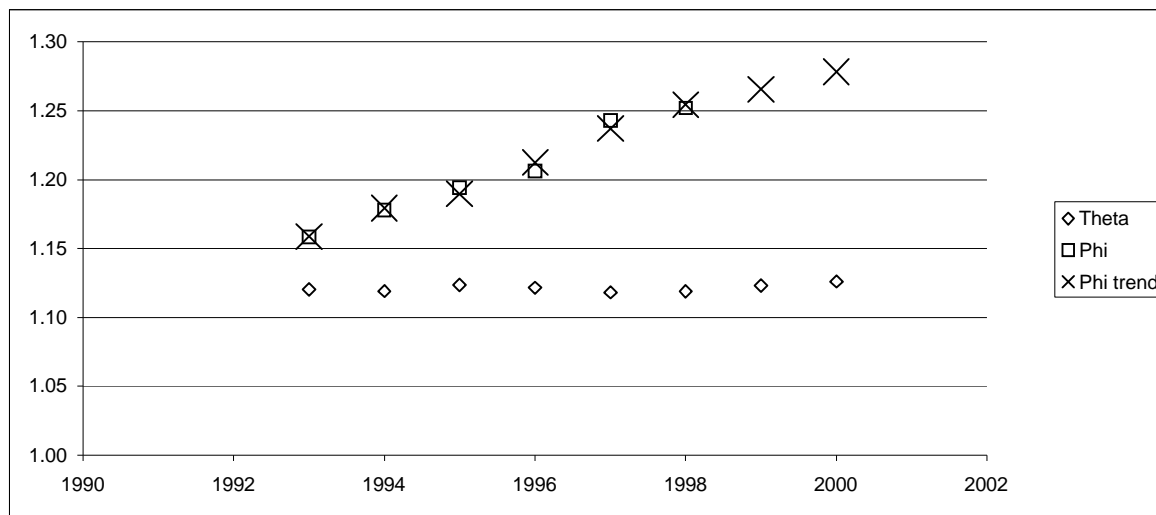
Schankerman, M. and Pakes, A. (1986), "Estimates of the Value of Patent Rights in European Countries during the post-1950 period," *Economic Journal* Vol. 97, pp. 1-25.

World Intellectual Property Organisation (2000), *International Patent Classification (IPC)*, <http://www.wipo.int/classifications/en/>.

ANNEX A**DATA ON EPC PRIORITIES GOING TO EPO**

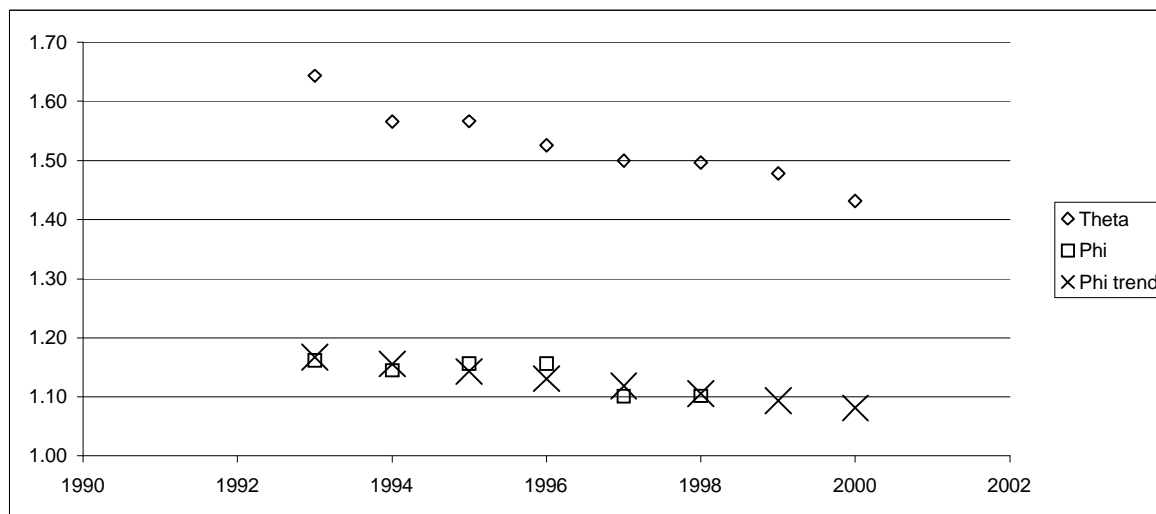
Data extracted in November 2002, except #Priorities 1999 and 2000 extracted July 2003.

| Priority Year | EPO subs. filings (y) | Theta | No. Of links (l) | #Priorities (p) | Phi | Phi trend | #Priorities trend |
|---------------|-----------------------|-------|------------------|-----------------|-------|-----------|-------------------|
| 1993 | 30159 | 1.120 | 33783 | 29161 | 1.158 | 1.159 | 29156 |
| 1994 | 32002 | 1.119 | 35814 | 30406 | 1.178 | 1.179 | 30368 |
| 1995 | 33201 | 1.124 | 37304 | 31244 | 1.194 | 1.190 | 31357 |
| 1996 | 38064 | 1.121 | 42687 | 35385 | 1.206 | 1.212 | 35212 |
| 1997 | 41530 | 1.118 | 46437 | 37361 | 1.243 | 1.237 | 37536 |
| 1998 | 44301 | 1.119 | 49570 | 39598 | 1.252 | 1.254 | 39519 |
| 1999 | 47945 | 1.123 | 53841 | 42245 | | 1.265 | 42546 |
| 2000 | 49830 | 1.126 | 56115 | 23768 | | 1.278 | 43900 |

**DATA ON JAPANESE PRIORITIES GOING TO EPO**

Data extracted in November 2002, except #Priorities 1999 and 2000 extracted July 2003.

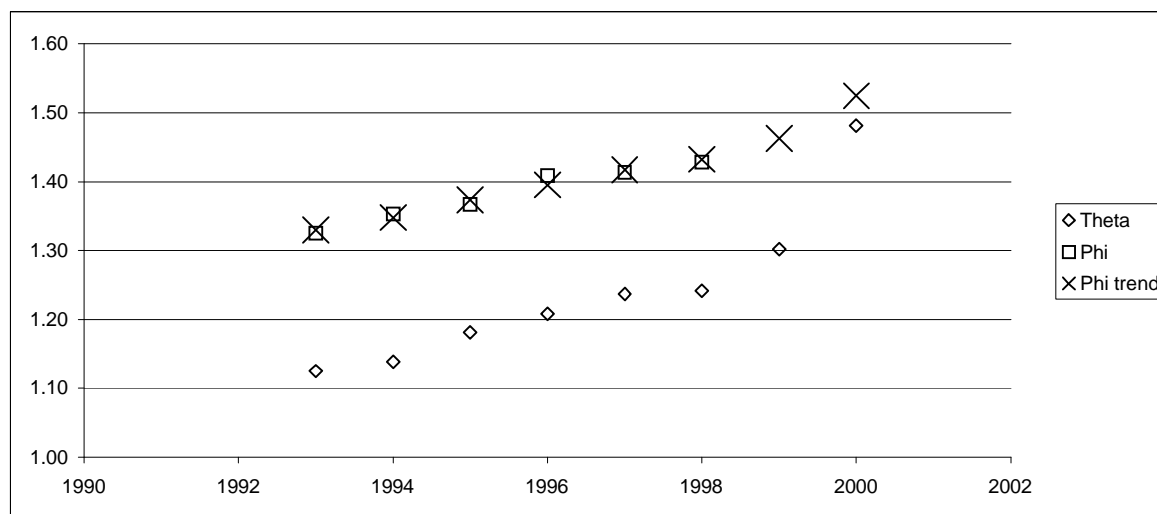
| Priority Year | EPO subs. filings (y) | Theta | No. Of links (l) | #Priorities (p) | Phi | Phi trend | #Priorities trend |
|---------------|-----------------------|-------|------------------|-----------------|-------|-----------|-------------------|
| 1993 | 11075 | 1.643 | 18198 | 15668 | 1.161 | 1.167 | 15591 |
| 1994 | 10751 | 1.566 | 16834 | 14706 | 1.145 | 1.156 | 14566 |
| 1995 | 12377 | 1.566 | 19385 | 16771 | 1.156 | 1.143 | 16962 |
| 1996 | 13871 | 1.526 | 21164 | 18304 | 1.156 | 1.131 | 18717 |
| 1997 | 14660 | 1.500 | 21983 | 19968 | 1.101 | 1.118 | 19656 |
| 1998 | 15348 | 1.497 | 22969 | 20855 | 1.101 | 1.106 | 20774 |
| 1999 | 18385 | 1.478 | 27170 | 23923 | | 1.093 | 24854 |
| 2000 | 22081 | 1.432 | 31615 | 21654 | | 1.081 | 29242 |



DATA ON U.S. PRIORITIES GOING TO EPO

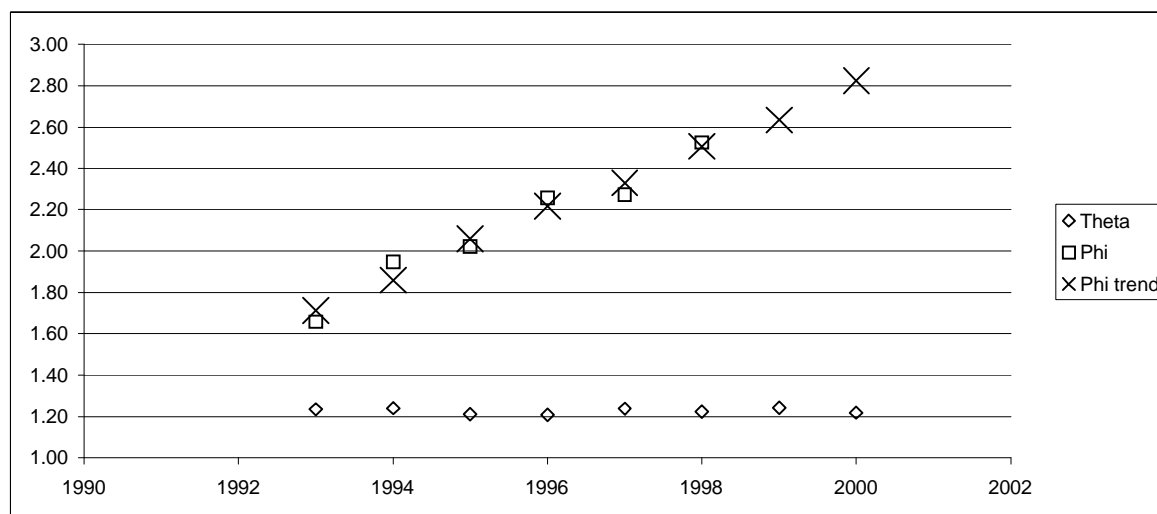
Data extracted in November 2002, except #Priorities 1999 and 2000 extracted July 2003.

| Priority Year | EPO subs. filings (y) | Theta | No. Of links (l) | #Priorities (p) | Phi | Phi trend | #Priorities trend |
|---------------|-----------------------|-------|------------------|-----------------|-------|-----------|-------------------|
| 1993 | 24049 | 1.125 | 27058 | 20422 | 1.325 | 1.330 | 20343 |
| 1994 | 25762 | 1.138 | 29322 | 21670 | 1.353 | 1.348 | 21754 |
| 1995 | 28933 | 1.181 | 34174 | 24996 | 1.367 | 1.374 | 24880 |
| 1996 | 32250 | 1.208 | 38953 | 27650 | 1.409 | 1.395 | 27925 |
| 1997 | 36650 | 1.237 | 45324 | 32070 | 1.413 | 1.417 | 31989 |
| 1998 | 40430 | 1.241 | 50182 | 35130 | 1.428 | 1.432 | 35033 |
| 1999 | 48568 | 1.302 | 63230 | 39051 | | 1.463 | 43227 |
| 2000 | 54390 | 1.481 | 80555 | 20361 | | 1.524 | 52847 |

**DATA ON OTHERS PRIORITIES GOING TO EPO**

Data extracted in November 2002, except #Priorities 1999 and 2000 extracted July 2003.

| Priority Year | EPO subs. filings (y) | Theta | No. Of links (l) | #Priorities (p) | Phi | Phi trend | #Priorities trend |
|---------------|-----------------------|-------|------------------|-----------------|-------|-----------|-------------------|
| 1993 | 3590 | 1.235 | 4434 | 2674 | 1.658 | 1.712 | 2590 |
| 1994 | 3942 | 1.240 | 4890 | 2510 | 1.948 | 1.859 | 2631 |
| 1995 | 4501 | 1.211 | 5452 | 2697 | 2.022 | 2.059 | 2647 |
| 1996 | 5443 | 1.209 | 6580 | 2913 | 2.259 | 2.218 | 2966 |
| 1997 | 6927 | 1.237 | 8569 | 3769 | 2.274 | 2.330 | 3677 |
| 1998 | 8274 | 1.224 | 10124 | 4010 | 2.525 | 2.506 | 4039 |
| 1999 | 10665 | 1.241 | 13240 | 4479 | | 2.634 | 5026 |
| 2000 | 13789 | 1.219 | 16811 | 2386 | | 2.824 | 5953 |



Annex B

Tables B1 – B5 describe some sample statistics derived from the PRI file. The database provides patent family counts by priority country or priority bloc as well as by bloc of destination (for subsequent filing) and by the associated route of filing (e.g. via national offices, PCT, direct EPO, or EPO via the PCT). The database provides information annually and by field of technology (according to International Patent Classification Code, or IPC). The data list four possible blocs that can comprise a patent family -- namely the EPC contracting states (henceforward EPC), Japan, US, and Others. For purposes of deriving these sample statistics, several indicator (or ‘dummy’) variables were constructed. For example, for each priority country (per year and per IPC code), there are fifteen possible permutations for a family: (1) EPC, (2) Japan, (3) US, (4) Other, (5) EPC and Japan, (6) EPC and the US, (7) EPC and Other, (8) US and Japan, (9) US and Other, (10) Japan and Other, (11) EPC, Japan, and the US, (12) EPC, Japan, and Other, (13) EPC, US, and Other, (14) US, Japan, and Other, and (15) and all four (EPC, Japan, US, and Other). Combinations (11) and (15) comprise Trilateral patent families. Thus, for each combination, an indicator variable was created such that it equals one if this combination describes the data point (that is, characterizes a patent family per priority country, per year, per IPC code, and per given route of filing) and zero otherwise. The combinations are mutually exclusive and exhaust the whole data set. In other words, the sum of the counts of all the combinations equals the total counts in the data set (or percentage shares of each combination add up to 100%). These indicator variables make it easy to identify the types and quantity of secondary filings associated with each priority country.

Table B1 provides a breakdown of international patent families that are based on priorities filed in 1979, 1984, 1989, 1994, and 1999. The 1999 figures (in panel 1 of Table B1) are provisional, so that there will be an underestimation of patent family formation for this particular year. In Table B1, the subsequent filing destinations are available only by blocs (EPC, US, Japan, and Other). The first column provides the quantity of first filings associated with the priority country and the remaining columns show different types of subsequent filings as a percentage of first filings. Note that these percentages (in each row) need not sum to 100% since the various bloc combinations shown are not mutually exclusive.

In 1999 (as in all other years), Japan leads with the most first filings (in excess of 350 000), the vast majority of which are domestic filings. The very large number of such filings has been attributed to the practice in Japan of filing domestic patent applications with single claims. One observer has suggested scaling Japanese domestic patent applications down by 5 to make them comparable to patents elsewhere in the world (Okada, 1992), but this is not attempted here. The U.S. has a total of 153 350 priority filings, while the EPC as a whole has 130 999 first filings, almost half of which come from Germany, followed by the U.K., and then France. There are about 12 000 direct first filings at the EPO in 1999, representing just under 10% of all first filings within the EPC bloc. Among Others, most first filings occur in China, followed by Korea, Russia, and Australia.

In 1999, more than 40% of U.S. first filings formed patent families with at least one other bloc (EPC, Japan, or Other), 30.1% formed patent families with at least one other trilateral bloc (Japan, EPC, or both), 32.2% formed patent families with at least a non-trilateral country or bloc, 28.7% formed patent families with at least the EPC, 9.2% with at least Japan, and just under 8% formed a Trilateral patent family. For Japan, the percentages of patent family formation are generally smaller due to the large number of its first filings (i.e.

in the denominator). For the EPC as a whole, the rates of patent family formation generally lie between those of the U.S. and Japan. Within the EPC, Switzerland leads with the highest rate of Trilateral patent family formation, followed by France, then Germany. The medium to lower income EPC states, such as Greece, Ireland, Monaco, Portugal, and Spain produce a negligible number of Trilateral patent families. Among Others, the largest number of Trilateral patent family counts comes from Korea, and very small or zero Trilateral patent families come from Brazil, Bulgaria, China, Hungary, Mexico, Philippines, Poland, Romania, and Russia.¹³ The EPC obtains relatively most subsequent filings from Korea, Australia, Canada, New Zealand, Norway, South Africa, and Israel. Again, it should be born in mind that these observations for year 1999 should be treated as provisional until further subsequent filing data are obtained.

In fact, the 1994 figures (the second panel of Table B1) show rates of patent family formation that are noticeably higher. For example, 13.4% of EPC first filings formed Trilateral patent families (vs. 3.9% in 1999) while 14.2% of U.S. priority filings formed Trilateral patent families (vs. 7.8% in 1999). For Japan, the rate of Trilateral patent family formation is slightly different (5.2% in 1994 vs. 3.8% in 1999). But the ranking and distribution of sources of subsequent filings is fairly stable; for example, Germany is the leading source of patent families involving the EPC, followed by the U.K. and France. Among Others, Korea remains the leading source of international subsequent filings (i.e. EPC, US, Japan, and Other Blocs as a whole), followed by Australia, Canada, Norway, and South Africa; overall, however, the rates of patent family formation are smallest among Others.

The pattern of first and subsequent filings is largely similar in 1989 for the EPC and Japan as in 1994. The rate of patent family formation for the U.S. is generally higher in 1989 (for example, 20.6% of U.S. priority filings formed Trilateral patent families vs. 14.2% in 1994). Among Others, a noticeable fact is that Korea's patent priority counts in 1989 are about a third of that in either 1994 or 1999, since around that time Korea had reformed and strengthened its patent regime and the effects on innovation in Korea appeared (later) with a lag¹⁴.

In 1984 and 1979, the volume of first and secondary filings is smaller than in later years, but the rates of family formation are fairly similar to those in 1989. The U.S., however, has a greater proportion of international patent families in 1984 than in the later years.

Table B2 presents a breakdown of international patent families by main International Patent Classification code for priority years 1984, 1989, 1994, and 1999 (WIPO, 1994). In a typical year, comparing across IPC codes, it can be observed that patenting activity is relatively greatest (in terms of the volume of filings) in Performing Operations (IPC code B), followed by Physics (code G), Electricity (code H), Human Necessities (code A), and Chemistry and Metallurgy (code C). Mechanical engineering (code F) is of medium intensity in Japan and the EPC, but of relatively low intensity in the U.S. Patenting activity

¹³ Note that for Others, the second and third columns coincide as a result of the fact that where a patent family is formed with at least one other bloc, that bloc is one of the trilateral blocs.

¹⁴ See Park (2001) for a global comparative analysis of patent regime changes. Korea had significantly increased the strength of its patent system between 1990 and 1995, as its domestic firms developed increased innovative potential and international presence. As a comparison, see the Gadbow and Richards (1988) study which shows how Korea (prior to 1990) had one of the weakest patent regimes (similar to that of India, China, and Brazil). Korea's experience supports Evenson's (1990) observation that intellectual property laws and policies are often endogenous (or respond to) domestic R&D and innovation activity, as the latter gives policymakers something of interest to protect. Otherwise, authorities may favor local imitators.

is least intense in Textiles and Paper (code D) and Fixed Construction (code E). In terms of the rates of international patent family formation, the 1999 figures are underestimates due to data reporting lags. In the years prior to 1999, more normal rates of international patent family formation can be observed. In terms of forming Trilateral patent families, there is quite a high volume in Chemistry and Metallurgy (code C), particularly among EPC contracting states, where 23.8% of priority filings in this field are subsequently filed in the U.S. and Japan. There is also quite a high volume of Trilateral patent families among Physics (code G) and Electricity (code H) inventions. The rate of Trilateral patent family formation is also fairly high in Textiles and Paper (code D), but the number of counts is relatively modest. Thus the distribution of international patent families by technological field is not even, with a slight bias among Trilateral patent families toward the “hard science” fields (e.g. Chemistry, Physics, and Electricity). See also Section 5, Fig. 2.

Table B3 shows the growth rates of priority filings by IPC field in selected countries over the period 1984 to 1999, as well as 1984 to 1994 (given the provisional nature of 1999 figures). The purpose is to analyze which particular technological fields drove the increase in (priority) patenting. This too was not even across IPC fields. For example, for the U.S., significant increases in patenting can be observed in the broad fields of Physics, Electricity, and Human Necessities (related partly to developments in pharmaceutical innovations). Priority filings in Chemistry and Metallurgy also experienced robust growth. Growth in patent filings was only modest in Mechanical Engineering. For Japan, Electricity, Chemistry, Human Necessities, and Fixed Constructions drove the growth in priority filings, while Textiles and Paper and Performing Operations contributed weakly. For the EPC, Physics, Electricity, and Chemistry and Metallurgy are behind the growth in priority filings, with each of the leading three countries (Germany, U.K., and France) contributing strongly. There is, on the other hand, weak growth in Mechanical Engineering filings in the EPC, with the U.K. experiencing negative growth. As for Others, Korea has had strong growth in all fields, more than doubling or tripling filings in the fields of Physics, Electricity, Chemistry and Metallurgy, and Mechanical Engineering. Australia also had strong growth in the hard sciences fields. Canada, on the other hand, had weak (in many cases, negative) growth in filings in many fields. This prompted the Canadian government to undertake a review of the Canadian innovation system and innovation policies.¹⁵

Table B4 focuses attention on the transfer rates of priority filings into subsequent filings in the EPO. The data combine filings directly at the EPO as well as indirectly via designations of EPO in PCT applications. The table shows both the volume of families containing subsequent filings and the percentages of these compared to the previous year's first filings. The percentages provide some idea of the transfer rate or transfer coefficient (i.e. fraction of priority filings that are subsequently filed). The lagged one year priority filings are used as a base (or denominator) since, under the Paris Convention, patent applicants have up to one year to exercise their priority rights in subsequent filings. The table presents figures for selected years, namely every five years from 1980 to 2000, and for each priority bloc (EPC, Japan, U.S., and Other).

Table B5 provides some counts of the subsequent filing patterns for families originating from the EPC contracting states. Different routes can be involved for both first filings and

¹⁵ Industry Canada, the government ministry in Canada which oversees the Canadian Intellectual Property Office (CIPO), had commissioned a series of research and other investigative studies on intellectual property policy. See, for example, Putnam (2003) for studies from a May 2001 conference organized by Industry Canada and for other references.

subsequent filings (e.g. national, direct EPO, PCT, or EPO via the PCT). Some applicants file only in the EPC area or form families with 2 or more blocs (such as the U.S., Japan, or Other). Thus the table shows patent family counts for various combinations of destination blocs and routes, for two particular years (i.e. 1984 and 1994) and for the period as a whole (1979-1999).

Table B1. Patent Families Derived from First Filings, by Country of Origin and Selected Years

1) Priority Year 1999

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country Bloc EPC: | Cntry of Origin | First Filings | All Other Blocs | Other Trilateral Blocs | EPC | Japan | USA | Other Countries | Trilateral Patent Families |
|---------------------------|--------------------|------------------|--------------------|------------------------------|-------------|-------------|--------------|--------------------|----------------------------------|
| | Austria | 2005 | 29.6% | 12.2% | -- | 4.5% | 10.1% | 22.1% | 2.4% |
| | Belgium | 568 | 28.3% | 8.5% | -- | 3.2% | 6.9% | 24.1% | 1.6% |
| | Denmark | 1373 | 60.3% | 15.7% | -- | 6.3% | 11.8% | 58.9% | 2.4% |
| | EPO | 11535 | 46.5% | 28.0% | -- | 14.5% | 20.3% | 33.3% | 6.7% |
| | Finland | 2495 | 51.5% | 17.6% | -- | 6.1% | 14.0% | 47.4% | 2.6% |
| | France | 12972 | 39.9% | 20.8% | -- | 12.2% | 14.4% | 28.7% | 5.9% |
| | Germany | 65819 | 24.4% | 14.5% | -- | 7.6% | 10.7% | 14.5% | 3.8% |
| | Greece | 295 | 12.9% | 2.4% | -- | 1.0% | 1.4% | 12.9% | 0.0% |
| | Ireland | 323 | 52.9% | 21.7% | -- | 4.6% | 20.1% | 48.3% | 3.1% |
| | Italy | 7333 | 26.7% | 12.1% | -- | 3.9% | 10.3% | 19.1% | 2.0% |
| | Luxem. | 68 | 58.8% | 13.2% | -- | 4.4% | 8.8% | 52.9% | 0.0% |
| | Monaco | 17 | 23.5% | 5.9% | -- | 5.9% | 0.0% | 17.6% | 0.0% |
| | Netherl. | 2438 | 40.0% | 13.6% | -- | 5.2% | 11.0% | 34.2% | 2.6% |
| | Portugal | 142 | 15.5% | 2.1% | -- | 0.7% | 2.1% | 14.8% | 0.7% |
| | Spain | 4624 | 11.1% | 3.4% | -- | 1.0% | 2.8% | 9.5% | 0.4% |
| | Sweden | 3343 | 71.5% | 20.7% | -- | 8.5% | 15.8% | 66.0% | 3.5% |
| | Switzerl. | 1188 | 69.8% | 28.3% | -- | 18.7% | 20.4% | 58.8% | 10.8% |
| | Turkey | 472 | 100.0% | 100.0% | -- | 0.0% | 0.6% | 12.1% | 0.0% |
| | UK | 13989 | 55.5% | 21.5% | -- | 9.4% | 15.1% | 46.3% | 2.9% |
| <i>Subtotal for EPC</i> | | <i>130999</i> | <i>34.1%</i> | <i>17.1%</i> | <i>--</i> | <i>8.3%</i> | <i>12.3%</i> | <i>24.4%</i> | <i>3.9%</i> |
| Japan: | Jpn | 356397 | 12.7% | 11.6% | 8.3% | -- | 7.1% | 5.1% | 3.8% |
| US: | USA | 153350 | 41.6% | 30.1% | 28.7% | 9.2% | -- | 32.2% | 7.8% |
| Other: | Argen | 92 | 59.8% | 59.8% | 39.1% | 12.0% | 27.2% | 40.2% | 6.5% |
| | Austral | 6856 | 18.9% | 18.9% | 15.5% | 3.4% | 4.5% | 17.6% | 0.6% |
| | Brazil | 6528 | 2.4% | 2.4% | 2.1% | 0.3% | 0.9% | 2.3% | 0.2% |
| | Bulgaria | 336 | 100.0% | 100.0% | 8.0% | 0.0% | 0.0% | 8.0% | 0.0% |
| | Canada | 1122 | 70.9% | 70.9% | 35.0% | 6.1% | 22.4% | 39.5% | 3.6% |
| | China | 62649 | 0.6% | 0.6% | 0.3% | 0.1% | 0.3% | 0.5% | 0.0% |
| | Hungary | 876 | 9.5% | 9.5% | 9.2% | 0.5% | 1.3% | 9.5% | 0.0% |
| | India | 238 | 75.6% | 75.6% | 53.8% | 9.2% | 19.3% | 50.8% | 3.8% |
| | Israel | 771 | 64.2% | 64.2% | 49.4% | 7.8% | 19.8% | 50.8% | 3.1% |
| | Korea | 57107 | 8.5% | 8.5% | 3.5% | 4.8% | 4.6% | 7.2% | 1.1% |
| | Malay | 43 | 60.5% | 60.5% | 27.9% | 18.6% | 16.3% | 30.2% | 4.7% |
| | Mexico | 68 | 42.6% | 42.6% | 30.9% | 1.5% | 13.2% | 32.4% | 0.0% |
| | NewZeal | 779 | 25.2% | 25.2% | 22.6% | 3.1% | 5.4% | 24.3% | 0.4% |
| | Norway | 945 | 38.8% | 38.8% | 37.2% | 3.0% | 5.7% | 38.3% | 0.8% |
| | Philipp | 7 | 42.9% | 42.9% | 28.6% | 14.3% | 0.0% | 28.6% | 0.0% |
| | Poland | 3444 | 1.2% | 1.2% | 1.1% | 0.1% | 0.1% | 1.1% | 0.0% |
| | Romania | 250 | 2.4% | 2.4% | 2.4% | 0.4% | 0.4% | 2.4% | 0.0% |
| | Russia | 13845 | 1.6% | 1.6% | 1.4% | 0.2% | 0.5% | 1.5% | 0.1% |
| | SouthAfr | 1595 | 13.9% | 13.9% | 10.6% | 1.3% | 4.1% | 12.9% | 0.3% |
| | Singapore | 337 | 43.0% | 43.0% | 27.3% | 8.6% | 11.9% | 34.1% | 0.9% |
| <i>Subtotal for Other</i> | | <i>157888</i> | <i>6.2%</i> | <i>6.2%</i> | <i>3.5%</i> | <i>2.1%</i> | <i>2.5%</i> | <i>5.1%</i> | <i>0.5%</i> |
| <i>Total</i> | | <i>798634</i> | | | | | | | |

2) Priority Year 1994

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country Bloc EPC: | Cntry of Origin | First Filings | All Other Blocs | Other Trilateral Blocs | EPC | Japan | USA | Other Countries | Trilateral Patent Families |
|---------------------------|--------------------|------------------|--------------------|------------------------------|-------------|--------------|--------------|--------------------|----------------------------------|
| | Austria | 1873 | 27.7% | 19.6% | -- | 12.5% | 17.2% | 19.0% | 10.1% |
| | Belgium | 794 | 30.7% | 23.2% | -- | 15.7% | 20.4% | 20.4% | 13.0% |
| | Denmark | 1169 | 46.8% | 30.4% | -- | 22.1% | 25.7% | 42.1% | 17.5% |
| | EPO | 7068 | 43.8% | 34.7% | -- | 24.2% | 30.4% | 26.1% | 19.9% |
| | Finland | 2310 | 37.2% | 27.7% | -- | 18.9% | 25.1% | 30.4% | 16.2% |
| | France | 11513 | 35.6% | 30.7% | -- | 20.4% | 27.5% | 21.8% | 17.2% |
| | Germany | 51874 | 23.0% | 20.0% | -- | 14.1% | 17.0% | 11.8% | 11.0% |
| | Greece | 202 | 9.9% | 5.4% | -- | 1.5% | 5.4% | 8.4% | 1.5% |
| | Ireland | 555 | 15.9% | 9.5% | -- | 4.5% | 8.3% | 14.4% | 3.2% |
| | Italy | 7961 | 17.8% | 14.1% | -- | 7.9% | 12.4% | 12.2% | 6.2% |
| | Luxem. | 59 | 47.5% | 28.8% | -- | 18.6% | 25.4% | 44.1% | 15.3% |
| | Monaco | 27 | 7.4% | 7.4% | -- | 7.4% | 3.7% | 7.4% | 3.7% |
| | Netherl. | 1659 | 40.5% | 30.7% | -- | 20.3% | 24.7% | 26.5% | 14.3% |
| | Portugal | 202 | 3.0% | 2.0% | -- | 0.5% | 2.0% | 2.5% | 0.5% |
| | Spain | 4246 | 7.4% | 4.6% | -- | 2.3% | 3.8% | 5.4% | 1.5% |
| | Sweden | 2793 | 57.5% | 42.9% | -- | 31.2% | 37.4% | 46.5% | 25.7% |
| | Switzerl. | 2164 | 55.0% | 46.2% | -- | 35.8% | 39.2% | 40.8% | 28.8% |
| | Turkey | 74 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 2.7% | 0.0% |
| | UK | 11118 | 53.2% | 41.2% | -- | 26.6% | 35.5% | 38.2% | 20.8% |
| <i>Subtotal for EPC</i> | | <i>107661</i> | <i>30.3%</i> | <i>24.8%</i> | <i>--</i> | <i>16.8%</i> | <i>21.3%</i> | <i>18.9%</i> | <i>13.4%</i> |
| Japan: | Jpn | 318261 | 11.1% | 10.6% | 6.0% | -- | 9.8% | 4.1% | 5.2% |
| US: | USA | 121733 | 28.1% | 21.9% | 20.3% | 15.8% | -- | 20.7% | 14.2% |
| Other: | Argen | 48 | 64.6% | 64.6% | 33.3% | 8.3% | 27.1% | 39.6% | 4.2% |
| | Austral | 5363 | 19.0% | 19.0% | 13.9% | 8.2% | 14.2% | 18.3% | 6.1% |
| | Brazil | 4810 | 3.0% | 3.0% | 2.6% | 0.9% | 1.9% | 3.0% | 0.5% |
| | Bulgaria | 415 | 100.0% | 100.0% | 1.2% | 0.2% | 0.5% | 0.5% | 0.0% |
| | Canada | 3064 | 27.2% | 27.2% | 11.5% | 5.2% | 23.2% | 26.3% | 3.9% |
| | China | 44210 | 0.4% | 0.4% | 0.2% | 0.1% | 0.2% | 0.4% | 0.1% |
| | Hungary | 1032 | 5.5% | 5.5% | 4.7% | 2.3% | 2.9% | 4.8% | 1.7% |
| | India | 180 | 12.2% | 12.2% | 3.3% | 0.0% | 2.2% | 3.9% | 0.0% |
| | Israel | 725 | 54.6% | 54.6% | 36.0% | 17.1% | 39.9% | 46.5% | 13.8% |
| | Korea | 32317 | 8.4% | 8.4% | 3.5% | 5.4% | 6.3% | 7.0% | 2.1% |
| | Malay | 23 | 56.5% | 56.5% | 34.8% | 26.1% | 34.8% | 26.1% | 4.3% |
| | Mexico | 47 | 63.8% | 63.8% | 23.4% | 2.1% | 23.4% | 29.8% | 0.0% |
| | NewZeal | 731 | 21.3% | 21.3% | 16.6% | 8.8% | 15.0% | 21.1% | 5.2% |
| | Norway | 643 | 37.2% | 37.2% | 35.3% | 13.1% | 23.8% | 35.9% | 11.8% |
| | Philipp | 59 | 3.4% | 3.4% | 1.7% | 0.0% | 3.4% | 3.4% | 0.0% |
| | Poland | 4107 | 0.9% | 0.9% | 0.7% | 0.1% | 0.2% | 0.7% | 0.0% |
| | Romania | 1029 | 0.8% | 0.8% | 0.7% | 0.1% | 0.3% | 0.8% | 0.1% |
| | Russia | 12721 | 1.2% | 1.2% | 1.0% | 0.4% | 0.6% | 1.1% | 0.3% |
| | SouthAfr | 1434 | 16.9% | 16.9% | 12.1% | 3.3% | 9.7% | 14.8% | 2.6% |
| | Singapore | 1644 | 14.7% | 14.7% | 14.5% | 11.5% | 12.0% | 14.7% | 10.0% |
| <i>Subtotal for Other</i> | | <i>114602</i> | <i>6.0%</i> | <i>6.0%</i> | <i>3.3%</i> | <i>2.7%</i> | <i>4.1%</i> | <i>5.1%</i> | <i>1.4%</i> |
| <i>Total</i> | | <i>662257</i> | | | | | | | |

3) Priority Year 1989

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country Bloc EPC: | Cntry of Origin | First Filings | All Other Blocs | Other Trilateral Blocs | EPC | Japan | USA | Other Countries | Trilateral Patent Families |
|-------------------------|--------------------|------------------|--------------------|------------------------------|-------|-------|-------|--------------------|----------------------------------|
| | Austria | 1490 | 34.0% | 26.6% | -- | 18.5% | 22.4% | 22.7% | 14.2% |
| | Belgium | 535 | 29.9% | 23.9% | -- | 16.8% | 18.9% | 19.6% | 11.8% |
| | Denmark | 842 | 49.8% | 31.0% | -- | 22.3% | 24.0% | 41.9% | 15.3% |
| | EPO | 3676 | 43.1% | 33.9% | -- | 24.2% | 26.7% | 22.7% | 17.0% |
| | Finland | 2076 | 29.8% | 20.2% | -- | 11.7% | 16.4% | 23.6% | 7.9% |
| | France | 11506 | 35.2% | 31.8% | -- | 23.1% | 27.0% | 21.5% | 18.3% |
| | Germany | 41034 | 26.2% | 24.0% | -- | 18.1% | 19.2% | 12.4% | 13.3% |
| | Greece | 246 | 5.7% | 3.3% | -- | 0.8% | 2.4% | 4.1% | 0.0% |
| | Ireland | 1955 | 4.5% | 2.5% | -- | 1.4% | 1.9% | 3.7% | 0.8% |
| | Italy | 9349 | 18.0% | 15.3% | -- | 9.9% | 12.8% | 10.5% | 7.3% |
| | Luxem. | 73 | 50.7% | 46.6% | -- | 32.9% | 38.4% | 35.6% | 24.7% |
| | Monaco | 18 | 5.6% | 5.6% | -- | 5.6% | 5.6% | 5.6% | 5.6% |
| | Netherl. | 2042 | 49.4% | 44.8% | -- | 37.0% | 36.6% | 31.2% | 28.8% |
| | Portugal | 302 | 1.7% | 1.0% | -- | 0.3% | 0.7% | 1.3% | 0.0% |
| | Spain | 5530 | 3.8% | 3.0% | -- | 1.8% | 2.3% | 2.3% | 1.1% |
| | Sweden | 2140 | 58.0% | 38.5% | -- | 28.2% | 32.5% | 45.0% | 22.2% |
| | Switzerl. | 2641 | 54.4% | 50.3% | -- | 41.8% | 40.4% | 32.3% | 31.9% |
| | Turkey | 87 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| | UK | 11142 | 51.9% | 41.3% | -- | 30.9% | 32.2% | 37.0% | 21.7% |
| Subtotal for EPC | | 96684 | 30.7% | 26.3% | -- | 19.4% | 21.2% | 18.1% | 14.3% |
| Japan: | Jpn | 316186 | 12.2% | 11.8% | 8.2% | -- | 10.5% | 4.4% | 7.0% |
| US: | USA | 77303 | 35.8% | 28.9% | 26.9% | 22.5% | -- | 27.0% | 20.6% |
| Other: | Argen | 108 | 30.6% | 30.6% | 17.6% | 8.3% | 13.9% | 22.2% | 4.6% |
| | Austral | 4323 | 20.6% | 20.6% | 12.6% | 6.7% | 11.9% | 17.2% | 3.9% |
| | Brazil | 4894 | 1.2% | 1.2% | 0.8% | 0.5% | 0.8% | 1.2% | 0.2% |
| | Bulgaria | 1226 | 100.0% | 100.0% | 0.6% | 0.3% | 0.1% | 0.3% | 0.1% |
| | Canada | 3328 | 42.0% | 42.0% | 22.1% | 13.0% | 34.9% | 38.9% | 9.6% |
| | China | 22641 | 0.3% | 0.3% | 0.2% | 0.1% | 0.2% | 0.3% | 0.0% |
| | Hungary | 1906 | 10.2% | 10.2% | 9.2% | 4.7% | 5.0% | 9.7% | 3.5% |
| | India | 1740 | 3.6% | 3.6% | 3.2% | 2.4% | 2.6% | 3.5% | 2.1% |
| | Israel | 510 | 55.9% | 55.9% | 38.6% | 20.0% | 39.0% | 37.8% | 15.7% |
| | Korea | 12721 | 5.7% | 5.7% | 2.8% | 3.3% | 3.4% | 4.0% | 1.3% |
| | Malay | 7 | 100.0% | 100.0% | 57.1% | 28.6% | 28.6% | 57.1% | 14.3% |
| | Mexico | 283 | 6.0% | 6.0% | 2.8% | 1.4% | 3.9% | 4.9% | 1.4% |
| | NewZeal | 489 | 17.8% | 17.8% | 14.5% | 9.0% | 8.6% | 15.3% | 3.9% |
| | Norway | 806 | 27.9% | 27.9% | 25.6% | 10.3% | 14.3% | 26.7% | 7.9% |
| | Philipp | 311 | 1.0% | 1.0% | 0.3% | 0.0% | 0.6% | 1.0% | 0.0% |
| | Poland | 3775 | 0.5% | 0.5% | 0.4% | 0.1% | 0.2% | 0.4% | 0.1% |
| | Romania | 2852 | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.0% |
| | Russia | 69743 | 0.3% | 0.3% | 0.3% | 0.2% | 0.1% | 0.3% | 0.1% |
| | SouthAfr | 2335 | 8.0% | 8.0% | 6.9% | 1.8% | 4.4% | 7.4% | 1.4% |
| | Singapore | 11 | 63.6% | 63.6% | 63.6% | 36.4% | 27.3% | 63.6% | 27.3% |
| Subtotal for Other | | 134009 | 4.3% | 4.3% | 2.1% | 1.3% | 2.1% | 2.9% | 0.8% |
| Total | | 624182 | | | | | | | |

4) Priority Year 1984

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country Bloc EPC: | Cntry of Origin | First Filings | All Other Blocs | Other Trilateral Blocs | EPC | Japan | USA | Other Countries | Trilateral Patent Families |
|-------------------------|--------------------|------------------|--------------------|------------------------------|-------|-------|-------|--------------------|----------------------------------|
| | Austria | 1642 | 25.9% | 21.2% | -- | 12.7% | 17.7% | 16.0% | 9.3% |
| | Belgium | 1619 | 8.0% | 6.4% | -- | 4.0% | 5.0% | 4.6% | 2.6% |
| | Denmark | 744 | 34.9% | 21.1% | -- | 12.9% | 16.3% | 27.7% | 8.1% |
| | EPO | 2014 | 45.9% | 37.2% | -- | 18.1% | 31.3% | 19.9% | 12.3% |
| | Finland | 1419 | 27.6% | 18.1% | -- | 11.0% | 15.0% | 21.6% | 7.9% |
| | France | 10844 | 28.4% | 25.5% | -- | 17.5% | 21.9% | 15.9% | 13.9% |
| | Germany | 41290 | 24.1% | 22.0% | -- | 15.6% | 17.9% | 10.4% | 11.5% |
| | Greece | 17 | 41.2% | 29.4% | -- | 11.8% | 23.5% | 35.3% | 5.9% |
| | Ireland | 1521 | 2.1% | 1.8% | -- | 0.9% | 1.6% | 1.1% | 0.8% |
| | Italy | 9597 | 12.8% | 11.3% | -- | 6.7% | 9.7% | 6.8% | 5.1% |
| | Luxem. | 178 | 43.3% | 40.4% | -- | 34.8% | 34.3% | 33.7% | 28.7% |
| | Monaco | 20 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| | Netherl. | 1803 | 44.5% | 42.4% | -- | 34.0% | 36.3% | 28.4% | 27.8% |
| | Portugal | 270 | 3.0% | 3.0% | -- | 2.2% | 2.2% | 2.6% | 1.5% |
| | Spain | 6817 | 2.4% | 1.9% | -- | 1.0% | 1.5% | 1.2% | 0.6% |
| | Sweden | 2609 | 46.9% | 34.5% | -- | 23.5% | 29.5% | 33.3% | 18.5% |
| | Switzerl. | 2473 | 51.9% | 47.0% | -- | 36.4% | 39.3% | 31.3% | 28.7% |
| | Turkey | 128 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| | UK | 11711 | 39.5% | 32.7% | -- | 21.4% | 26.0% | 25.8% | 14.8% |
| Subtotal for EPC | | 96716 | 25.6% | 22.3% | -- | 15.2% | 18.3% | 13.7% | 11.2% |
| Japan: | Jpn | 257983 | 9.9% | 9.4% | 6.4% | -- | 8.5% | 3.3% | 5.5% |
| US: | USA | 48665 | 40.6% | 34.8% | 32.0% | 25.6% | -- | 28.9% | 22.8% |
| Other: | Argen | 252 | 6.7% | 6.7% | 3.2% | 1.2% | 2.4% | 2.4% | 1.2% |
| | Austral | 2983 | 28.4% | 28.4% | 22.5% | 8.8% | 14.4% | 22.8% | 5.9% |
| | Brazil | 4235 | 1.1% | 1.1% | 0.8% | 0.3% | 0.6% | 1.1% | 0.1% |
| | Bulgaria | 1654 | 100.0% | 100.0% | 2.4% | 1.3% | 1.0% | 2.1% | 0.7% |
| | Canada | 3138 | 18.1% | 18.1% | 8.5% | 5.7% | 13.5% | 16.4% | 3.4% |
| | China | 0 | | | | | | | |
| | Hungary | 2270 | 13.4% | 13.4% | 12.2% | 5.2% | 4.8% | 12.6% | 3.0% |
| | India | 822 | 0.5% | 0.5% | 0.2% | 0.0% | 0.0% | 0.2% | 0.0% |
| | Israel | 433 | 35.8% | 35.8% | 24.2% | 13.4% | 22.4% | 27.5% | 6.9% |
| | Korea | 7433 | 1.7% | 1.7% | 0.8% | 0.7% | 0.8% | 1.3% | 0.2% |
| | Malay | 14 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Mexico | 307 | 4.6% | 4.6% | 1.3% | 0.3% | 2.0% | 2.0% | 0.3% |
| | NewZeal | 472 | 17.6% | 17.6% | 14.8% | 5.3% | 10.0% | 16.1% | 3.8% |
| | Norway | 735 | 27.2% | 27.2% | 24.4% | 6.3% | 12.4% | 25.4% | 4.8% |
| | Philipp | 380 | 0.8% | 0.8% | 0.3% | 0.3% | 0.5% | 0.8% | 0.0% |
| | Poland | 4990 | 1.1% | 1.1% | 1.0% | 0.2% | 0.2% | 1.1% | 0.1% |
| | Romania | 1963 | 0.3% | 0.3% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% |
| | Russia | 57954 | 0.7% | 0.7% | 0.6% | 0.1% | 0.2% | 0.6% | 0.1% |
| | SouthAfr | 2140 | 9.4% | 9.4% | 7.6% | 1.9% | 4.8% | 8.8% | 1.0% |
| | Singapore | 0 | | | | | | | |
| Subtotal for Other | | 92175 | 5.1% | 5.1% | 2.5% | 1.0% | 1.7% | 2.9% | 0.6% |
| Total | | 495539 | | | | | | | |

5) Priority Year 1979

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country Bloc EPC: | Cntry of Origin | First Filings | All Other Blocs | Other Trilateral Blocs | EPC | Japan | USA | Other Countries | Trilateral Patent Families |
|-------------------------|--------------------|------------------|--------------------|------------------------------|-------|-------|-------|--------------------|----------------------------------|
| | Austria | 2328 | 17.3% | 13.7% | -- | 9.1% | 10.7% | 11.3% | 6.1% |
| | Belgium | 1974 | 7.7% | 6.2% | -- | 2.8% | 5.2% | 4.3% | 1.8% |
| | Denmark | 811 | 19.7% | 15.2% | -- | 9.5% | 11.6% | 13.6% | 5.9% |
| | EPO | 622 | 23.8% | 12.5% | -- | 9.0% | 10.0% | 17.8% | 6.4% |
| | Finland | 982 | 23.3% | 16.1% | -- | 11.1% | 12.0% | 18.5% | 7.0% |
| | France | 11790 | 26.0% | 23.1% | -- | 14.4% | 19.6% | 14.8% | 10.9% |
| | Germany | 38896 | 23.3% | 21.4% | -- | 15.3% | 16.4% | 10.4% | 10.3% |
| | Greece | 25 | 44.0% | 28.0% | -- | 16.0% | 16.0% | 24.0% | 4.0% |
| | Ireland | 912 | 2.6% | 2.5% | -- | 1.1% | 2.3% | 1.9% | 0.9% |
| | Italy | 9557 | 12.0% | 9.9% | -- | 6.3% | 7.9% | 6.9% | 4.3% |
| | Luxem. | 234 | 28.6% | 26.5% | -- | 19.7% | 21.8% | 23.1% | 15.0% |
| | Monaco | 24 | 8.3% | 4.2% | -- | 0.0% | 4.2% | 8.3% | 0.0% |
| | Netherl. | 2194 | 36.3% | 33.6% | -- | 26.5% | 29.3% | 24.7% | 22.1% |
| | Portugal | 222 | 3.6% | 0.9% | -- | 0.5% | 0.5% | 3.6% | 0.0% |
| | Spain | 7987 | 1.6% | 0.8% | -- | 0.5% | 0.6% | 1.1% | 0.2% |
| | Sweden | 2885 | 37.9% | 30.2% | -- | 21.1% | 23.4% | 26.2% | 14.2% |
| | Switzerl. | 3165 | 50.4% | 46.7% | -- | 34.8% | 36.3% | 29.4% | 24.4% |
| | Turkey | 16 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| | UK | 14145 | 28.5% | 23.8% | -- | 14.4% | 19.2% | 17.8% | 9.8% |
| Subtotal for EPC | | 98769 | 22.4% | 19.7% | -- | 13.4% | 15.6% | 12.3% | 9.3% |
| Japan: | Jpn | 152164 | 9.3% | 9.1% | 6.9% | -- | 7.9% | 2.4% | 5.7% |
| US: | USA | 49694 | 34.2% | 28.2% | 26.3% | 19.6% | -- | 25.6% | 17.7% |
| Other: | Argen | 1346 | 1.4% | 1.4% | 1.1% | 0.2% | 0.6% | 1.3% | 0.0% |
| | Austral | 3334 | 18.8% | 18.8% | 14.5% | 6.9% | 9.6% | 16.0% | 4.1% |
| | Brazil | 4204 | 1.1% | 1.1% | 0.8% | 0.2% | 0.4% | 1.0% | 0.1% |
| | Bulgaria | 1393 | 100.0% | 100.0% | 2.2% | 1.1% | 1.0% | 1.8% | 0.6% |
| | Canada | 4042 | 11.7% | 11.7% | 5.6% | 3.4% | 8.0% | 10.4% | 1.6% |
| | China | 0 | | | | | | | |
| | Hungary | 1100 | 20.7% | 20.7% | 19.1% | 9.5% | 9.7% | 19.2% | 7.5% |
| | India | 705 | 1.3% | 1.3% | 0.9% | 0.3% | 0.3% | 0.9% | 0.3% |
| | Israel | 437 | 27.0% | 27.0% | 18.5% | 6.4% | 17.4% | 22.4% | 4.3% |
| | Korea | 4975 | 0.6% | 0.6% | 0.3% | 0.2% | 0.3% | 0.4% | 0.2% |
| | Malay | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Mexico | 679 | 1.6% | 1.6% | 1.2% | 1.0% | 1.0% | 1.5% | 0.7% |
| | NewZeal | 306 | 29.7% | 29.7% | 23.5% | 6.2% | 15.0% | 27.1% | 4.6% |
| | Norway | 661 | 24.2% | 24.2% | 21.8% | 6.5% | 10.0% | 23.1% | 3.8% |
| | Philipp | 313 | 2.6% | 2.6% | 1.3% | 0.6% | 2.2% | 2.2% | 0.6% |
| | Poland | 6739 | 1.6% | 1.6% | 1.6% | 0.2% | 0.4% | 1.6% | 0.1% |
| | Romania | 1550 | 0.4% | 0.4% | 0.4% | 0.2% | 0.1% | 0.4% | 0.1% |
| | Russia | 67096 | 0.7% | 0.7% | 0.6% | 0.3% | 0.2% | 0.6% | 0.1% |
| | SouthAfr | 1196 | 16.7% | 16.7% | 13.8% | 4.0% | 6.9% | 15.0% | 2.5% |
| | Singapore | 0 | | | | | | | |
| Subtotal for Other | | 100078 | 4.0% | 4.0% | 2.0% | 0.9% | 1.2% | 2.3% | 0.5% |
| Total | | 400705 | | | | | | | |

Table B2. Patent Families Derived from First Filings, by Country of Origin and IPC field, Selected Years.**YEAR: 1999****1. IPC = A****Human Necessities**

Secondary Filings as a Percentage of First Filings

(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 359 | 26.7% | 8.6% | -- | 3.1% | 7.2% | 22.8% | 1.7% |
| EPC | Belgium | 98 | 23.5% | 4.1% | -- | 2.0% | 3.1% | 22.4% | 1.0% |
| EPC | Denmark | 421 | 53.2% | 15.7% | -- | 6.4% | 10.2% | 52.3% | 1.0% |
| EPC | EPO | 1560 | 48.5% | 27.8% | -- | 10.4% | 22.9% | 37.8% | 5.4% |
| EPC | Finland | 317 | 32.2% | 8.2% | -- | 2.8% | 6.9% | 30.0% | 1.6% |
| EPC | France | 2392 | 39.6% | 18.6% | -- | 12.1% | 12.2% | 30.9% | 5.7% |
| EPC | Germany | 10041 | 18.9% | 9.8% | -- | 4.2% | 7.4% | 12.5% | 1.8% |
| EPC | Greece | 98 | 17.3% | 5.1% | -- | 3.1% | 2.0% | 17.3% | 0.0% |
| EPC | Ireland | 89 | 57.3% | 33.7% | -- | 13.5% | 31.5% | 53.9% | 11.2% |
| EPC | Italy | 1711 | 25.7% | 9.4% | -- | 3.2% | 7.9% | 20.0% | 1.7% |
| EPC | Luxem. | 6 | 33.3% | 16.7% | -- | 0.0% | 16.7% | 33.3% | 0.0% |
| EPC | Monaco | 7 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 576 | 34.2% | 13.2% | -- | 4.5% | 10.6% | 29.9% | 1.9% |
| EPC | Portugal | 36 | 5.6% | 0.0% | -- | 0.0% | 0.0% | 5.6% | 0.0% |
| EPC | Spain | 1447 | 8.2% | 2.7% | -- | 0.8% | 2.1% | 6.9% | 0.2% |
| EPC | Sweden | 619 | 69.3% | 17.9% | -- | 8.4% | 12.1% | 63.5% | 2.6% |
| EPC | Switzerl. | 209 | 67.5% | 22.0% | -- | 13.4% | 15.8% | 58.4% | 7.2% |
| EPC | Turkey | 145 | 100.0% | 100.0% | -- | 0.0% | 0.7% | 10.3% | 0.0% |
| EPC | UK | 2610 | 54.6% | 19.6% | -- | 7.6% | 14.0% | 49.8% | 2.0% |
| <i>Subtotal for EPC</i> | | 22741 | 30.9% | 13.7% | -- | 5.7% | 9.8% | 24.3% | 2.4% |
| Japan | Jpn | 35236 | 8.2% | 6.9% | 5.4% | -- | 3.5% | 4.6% | 2.0% |
| US | USA | 30390 | 37.2% | 26.1% | 25.7% | 5.8% | -- | 32.4% | 5.5% |
| Other | Argen | 20 | 70.0% | 70.0% | 40.0% | 0.0% | 35.0% | 40.0% | 0.0% |
| Other | Austral | 1622 | 15.5% | 15.5% | 13.7% | 2.7% | 3.2% | 14.8% | 0.6% |
| Other | Brazil | 1851 | 1.5% | 1.5% | 1.4% | 0.4% | 0.3% | 1.5% | 0.1% |
| Other | Bulgaria | 103 | 100.0% | 100.0% | 7.8% | 0.0% | 0.0% | 7.8% | 0.0% |
| Other | Canada | 222 | 67.1% | 67.1% | 37.4% | 4.1% | 18.9% | 36.9% | 1.8% |
| Other | China | 15967 | 0.3% | 0.3% | 0.2% | 0.0% | 0.2% | 0.3% | 0.0% |
| Other | Hungary | 347 | 5.2% | 5.2% | 5.2% | 0.0% | 0.3% | 5.2% | 0.0% |
| Other | India | 89 | 74.2% | 74.2% | 59.6% | 14.6% | 12.4% | 58.4% | 4.5% |
| Other | Israel | 198 | 62.6% | 62.6% | 49.0% | 4.5% | 20.2% | 53.5% | 3.5% |
| Other | Korea | 8415 | 4.2% | 4.2% | 2.1% | 1.9% | 1.8% | 3.4% | 0.5% |
| Other | Malay | 12 | 41.7% | 41.7% | 25.0% | 25.0% | 25.0% | 25.0% | 8.3% |
| Other | Mexico | 20 | 50.0% | 50.0% | 40.0% | 0.0% | 5.0% | 45.0% | 0.0% |
| Other | NewZeal | 244 | 25.0% | 25.0% | 23.4% | 4.5% | 6.1% | 24.2% | 0.4% |
| Other | Norway | 174 | 33.9% | 33.9% | 33.3% | 6.9% | 5.2% | 33.3% | 2.3% |
| Other | Philipp | 4 | 25.0% | 25.0% | 25.0% | 25.0% | 0.0% | 25.0% | 0.0% |
| Other | Poland | 589 | 1.5% | 1.5% | 1.2% | 0.2% | 0.2% | 1.2% | 0.2% |
| Other | Romania | 52 | 1.9% | 1.9% | 1.9% | 0.0% | 0.0% | 1.9% | 0.0% |
| Other | Russia | 3484 | 1.3% | 1.3% | 1.2% | 0.1% | 0.3% | 1.2% | 0.0% |
| Other | SouthAfr | 316 | 14.2% | 14.2% | 12.7% | 2.2% | 1.6% | 13.6% | 0.0% |
| Other | Singapore | 24 | 29.2% | 29.2% | 16.7% | 4.2% | 16.7% | 25.0% | 4.2% |
| <i>Subtotal for Other</i> | | 33753 | 4.2% | 4.2% | 2.8% | 0.8% | 1.2% | 3.3% | 0.2% |
| <i>Total</i> | | 122120 | | | | | | | |

YEAR: 1999

2. IPC = B

Performing Operations

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 459 | 29.6% | 11.1% | -- | 2.8% | 9.6% | 21.4% | 1.3% |
| EPC | Belgium | 165 | 26.7% | 4.8% | -- | 1.8% | 4.2% | 24.2% | 1.2% |
| EPC | Denmark | 265 | 45.3% | 6.4% | -- | 2.3% | 5.3% | 43.8% | 1.1% |
| EPC | EPO | 1672 | 42.8% | 29.0% | -- | 16.6% | 21.9% | 27.2% | 9.4% |
| EPC | Finland | 462 | 39.0% | 12.6% | -- | 5.4% | 10.0% | 35.3% | 2.8% |
| EPC | France | 3096 | 32.0% | 17.2% | -- | 9.5% | 13.5% | 22.5% | 5.8% |
| EPC | Germany | 17781 | 21.5% | 14.3% | -- | 7.6% | 10.8% | 10.9% | 4.0% |
| EPC | Greece | 63 | 14.3% | 3.2% | -- | 0.0% | 3.2% | 14.3% | 0.0% |
| EPC | Ireland | 48 | 37.5% | 6.2% | -- | 0.0% | 6.2% | 37.5% | 0.0% |
| EPC | Italy | 2364 | 24.6% | 11.0% | -- | 3.2% | 9.4% | 17.4% | 1.6% |
| EPC | Luxem. | 18 | 61.1% | 22.2% | -- | 16.7% | 5.6% | 50.0% | 0.0% |
| EPC | Monaco | 2 | 50.0% | 0.0% | -- | 0.0% | 0.0% | 50.0% | 0.0% |
| EPC | Netherl. | 689 | 42.7% | 17.9% | -- | 7.5% | 14.8% | 32.8% | 4.5% |
| EPC | Portugal | 40 | 17.5% | 2.5% | -- | 0.0% | 2.5% | 15.0% | 0.0% |
| EPC | Spain | 1209 | 11.2% | 3.6% | -- | 1.3% | 2.7% | 9.5% | 0.5% |
| EPC | Sweden | 710 | 65.9% | 17.7% | -- | 9.4% | 12.3% | 59.3% | 3.9% |
| EPC | Switzerl. | 276 | 70.3% | 29.3% | -- | 20.3% | 21.0% | 57.6% | 12.0% |
| EPC | Turkey | 88 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 5.7% | 0.0% |
| EPC | UK | 2521 | 44.5% | 18.0% | -- | 5.6% | 14.6% | 35.5% | 2.2% |
| <i>Subtotal for EPC</i> | | 31928 | 28.0% | 15.3% | -- | 7.4% | 11.6% | 18.1% | 4.0% |
| Japan | Jpn | 67113 | 10.7% | 9.9% | 7.6% | -- | 6.3% | 3.6% | 4.0% |
| US | USA | 24080 | 33.8% | 25.0% | 23.8% | 8.1% | -- | 23.7% | 6.9% |
| Other | Argen | 25 | 48.0% | 48.0% | 44.0% | 8.0% | 16.0% | 44.0% | 8.0% |
| Other | Austral | 1365 | 18.0% | 18.0% | 15.0% | 2.8% | 5.8% | 16.9% | 1.0% |
| Other | Brazil | 1712 | 1.9% | 1.9% | 1.9% | 0.3% | 0.7% | 1.9% | 0.2% |
| Other | Bulgaria | 58 | 100.0% | 100.0% | 8.6% | 0.0% | 0.0% | 8.6% | 0.0% |
| Other | Canada | 214 | 75.7% | 75.7% | 30.4% | 5.6% | 21.0% | 34.1% | 2.8% |
| Other | China | 13203 | 0.4% | 0.4% | 0.2% | 0.1% | 0.2% | 0.4% | 0.0% |
| Other | Hungary | 147 | 6.8% | 6.8% | 5.4% | 0.0% | 2.0% | 6.8% | 0.0% |
| Other | India | 10 | 80.0% | 80.0% | 60.0% | 20.0% | 40.0% | 60.0% | 20.0% |
| Other | Israel | 91 | 71.4% | 71.4% | 57.1% | 15.4% | 29.7% | 50.5% | 8.8% |
| Other | Korea | 9381 | 4.2% | 4.2% | 2.1% | 2.7% | 2.6% | 3.6% | 1.0% |
| Other | Malay | 3 | 66.7% | 66.7% | 66.7% | 0.0% | 33.3% | 66.7% | 0.0% |
| Other | Mexico | 14 | 35.7% | 35.7% | 21.4% | 0.0% | 35.7% | 21.4% | 0.0% |
| Other | NewZeal | 141 | 22.7% | 22.7% | 22.0% | 2.8% | 3.5% | 22.7% | 0.7% |
| Other | Norway | 214 | 32.2% | 32.2% | 29.4% | 1.9% | 3.7% | 30.8% | 0.5% |
| Other | Philipp | 1 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 870 | 1.6% | 1.6% | 1.6% | 0.0% | 0.0% | 1.6% | 0.0% |
| Other | Romania | 34 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 2340 | 1.5% | 1.5% | 1.5% | 0.1% | 0.5% | 1.5% | 0.0% |
| Other | SouthAfr | 388 | 11.6% | 11.6% | 9.3% | 0.5% | 3.4% | 10.8% | 0.3% |
| Other | Singapore | 43 | 30.2% | 30.2% | 18.6% | 9.3% | 9.3% | 20.9% | 2.3% |
| <i>Subtotal for Other</i> | | 30254 | 4.2% | 4.2% | 2.7% | 1.2% | 1.6% | 3.3% | 0.5% |
| <i>Total</i> | | 153375 | | | | | | | |

YEAR: 1999

3. IPC = C

Chemistry & Metallurgy

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 172 | 61.0% | 29.1% | -- | 12.2% | 23.8% | 50.0% | 7.0% |
| EPC | Belgium | 53 | 52.8% | 9.4% | -- | 5.7% | 5.7% | 52.8% | 1.9% |
| EPC | Denmark | 248 | 90.3% | 35.5% | -- | 15.3% | 29.8% | 88.3% | 9.7% |
| EPC | EPO | 2261 | 54.0% | 24.8% | -- | 13.3% | 18.4% | 47.9% | 6.9% |
| EPC | Finland | 184 | 72.8% | 13.6% | -- | 5.4% | 9.8% | 70.1% | 1.6% |
| EPC | France | 1261 | 71.4% | 28.7% | -- | 18.1% | 19.7% | 61.6% | 9.0% |
| EPC | Germany | 5549 | 53.8% | 23.7% | -- | 17.4% | 15.0% | 43.4% | 8.6% |
| EPC | Greece | 14 | 14.3% | 0.0% | -- | 0.0% | 0.0% | 14.3% | 0.0% |
| EPC | Ireland | 19 | 57.9% | 31.6% | -- | 5.3% | 26.3% | 57.9% | 0.0% |
| EPC | Italy | 503 | 48.1% | 19.3% | -- | 12.3% | 14.3% | 39.6% | 7.4% |
| EPC | Luxem. | 17 | 88.2% | 0.0% | -- | 0.0% | 0.0% | 88.2% | 0.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 166 | 74.7% | 21.7% | -- | 7.2% | 17.5% | 69.9% | 3.0% |
| EPC | Portugal | 19 | 26.3% | 5.3% | -- | 5.3% | 5.3% | 26.3% | 5.3% |
| EPC | Spain | 242 | 30.2% | 7.9% | -- | 4.1% | 6.6% | 27.7% | 2.9% |
| EPC | Sweden | 296 | 87.2% | 27.4% | -- | 12.8% | 22.6% | 79.1% | 8.1% |
| EPC | Switzerl. | 164 | 83.5% | 39.0% | -- | 26.8% | 27.4% | 68.3% | 15.2% |
| EPC | Turkey | 27 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 7.4% | 0.0% |
| EPC | UK | 2054 | 87.8% | 30.2% | -- | 17.2% | 18.0% | 81.8% | 5.0% |
| <i>Subtotal for EPC</i> | | 13249 | 62.6% | 25.4% | -- | 15.7% | 16.9% | 54.1% | 7.5% |
| Japan | Jpn | 36991 | 16.9% | 15.3% | 13.3% | -- | 7.4% | 9.0% | 5.4% |
| US | USA | 21381 | 54.6% | 42.1% | 41.6% | 10.0% | -- | 48.1% | 9.4% |
| Other | Argen | 8 | 100.0% | 100.0% | 50.0% | 37.5% | 87.5% | 87.5% | 37.5% |
| Other | Austral | 819 | 23.8% | 23.8% | 20.5% | 6.6% | 4.0% | 21.9% | 1.1% |
| Other | Brazil | 346 | 8.1% | 8.1% | 7.8% | 1.2% | 2.6% | 8.1% | 0.6% |
| Other | Bulgaria | 30 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 143 | 67.8% | 67.8% | 50.3% | 8.4% | 22.4% | 57.3% | 5.6% |
| Other | China | 5141 | 1.0% | 1.0% | 0.7% | 0.2% | 0.6% | 1.0% | 0.1% |
| Other | Hungary | 98 | 34.7% | 34.7% | 34.7% | 2.0% | 5.1% | 34.7% | 0.0% |
| Other | India | 97 | 78.4% | 78.4% | 46.4% | 4.1% | 26.8% | 43.3% | 2.1% |
| Other | Israel | 95 | 57.9% | 57.9% | 53.7% | 5.3% | 10.5% | 53.7% | 0.0% |
| Other | Korea | 4027 | 10.4% | 10.4% | 6.3% | 5.7% | 4.9% | 9.2% | 1.8% |
| Other | Malay | 4 | 50.0% | 50.0% | 25.0% | 25.0% | 0.0% | 25.0% | 0.0% |
| Other | Mexico | 11 | 63.6% | 63.6% | 63.6% | 9.1% | 9.1% | 63.6% | 0.0% |
| Other | NewZeal | 61 | 26.2% | 26.2% | 26.2% | 3.3% | 0.0% | 26.2% | 0.0% |
| Other | Norway | 128 | 42.2% | 42.2% | 41.4% | 3.1% | 10.9% | 42.2% | 0.8% |
| Other | Philipp | 0 | | | | | | | |
| Other | Poland | 435 | 0.2% | 0.2% | 0.2% | 0.0% | 0.0% | 0.2% | 0.0% |
| Other | Romania | 58 | 3.4% | 3.4% | 3.4% | 1.7% | 1.7% | 3.4% | 0.0% |
| Other | Russia | 2327 | 2.0% | 2.0% | 1.7% | 0.4% | 0.7% | 1.7% | 0.2% |
| Other | SouthAfr | 173 | 32.9% | 32.9% | 16.2% | 0.6% | 18.5% | 31.2% | 0.0% |
| Other | Singapore | 38 | 31.6% | 31.6% | 23.7% | 5.3% | 7.9% | 26.3% | 0.0% |
| <i>Subtotal for Other</i> | | 14039 | 8.5% | 8.5% | 6.0% | 2.5% | 3.0% | 7.4% | 0.7% |
| <i>Total</i> | | 85660 | | | | | | | |

YEAR: 1999

4. IPC = D

Textiles & Paper

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 29 | 48.3% | 27.6% | -- | 20.7% | 27.6% | 24.1% | 20.7% |
| EPC | Belgium | 34 | 47.1% | 35.3% | -- | 2.9% | 35.3% | 14.7% | 2.9% |
| EPC | Denmark | 8 | 25.0% | 0.0% | -- | 0.0% | 0.0% | 25.0% | 0.0% |
| EPC | EPO | 193 | 44.0% | 25.4% | -- | 14.0% | 20.7% | 34.7% | 9.3% |
| EPC | Finland | 217 | 57.6% | 19.8% | -- | 8.3% | 16.1% | 53.5% | 4.6% |
| EPC | France | 144 | 48.6% | 23.6% | -- | 9.0% | 22.2% | 40.3% | 7.6% |
| EPC | Germany | 1143 | 34.6% | 22.5% | -- | 10.6% | 18.5% | 20.1% | 6.6% |
| EPC | Greece | 3 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 1 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Italy | 298 | 23.8% | 11.4% | -- | 4.0% | 10.1% | 17.8% | 2.7% |
| EPC | Luxem. | 0 | | | -- | | | | |
| EPC | Monaco | 1 | 100.0% | 0.0% | -- | 0.0% | 0.0% | 100.0% | 0.0% |
| EPC | Netherl. | 19 | 73.7% | 10.5% | -- | 5.3% | 5.3% | 73.7% | 0.0% |
| EPC | Portugal | 2 | 50.0% | 0.0% | -- | 0.0% | 0.0% | 50.0% | 0.0% |
| EPC | Spain | 61 | 13.1% | 4.9% | -- | 0.0% | 4.9% | 11.5% | 0.0% |
| EPC | Sweden | 95 | 68.4% | 31.6% | -- | 9.5% | 25.3% | 57.9% | 3.2% |
| EPC | Switzerl. | 36 | 63.9% | 25.0% | -- | 13.9% | 16.7% | 58.3% | 5.6% |
| EPC | Turkey | 18 | 100.0% | 100.0% | -- | 0.0% | 5.6% | 16.7% | 0.0% |
| EPC | UK | 142 | 59.2% | 24.6% | -- | 5.6% | 22.5% | 47.9% | 3.5% |
| <i>Subtotal for EPC</i> | | 2444 | 40.6% | 21.8% | -- | 9.0% | 17.8% | 29.0% | 5.7% |
| Japan | Jpn | 4608 | 12.5% | 10.2% | 8.5% | -- | 5.2% | 8.1% | 3.5% |
| US | USA | 1218 | 46.2% | 36.1% | 36.0% | 8.6% | -- | 37.7% | 8.5% |
| Other | Argen | 3 | 33.3% | 33.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 45 | 4.4% | 4.4% | 4.4% | 0.0% | 0.0% | 4.4% | 0.0% |
| Other | Brazil | 84 | 1.2% | 1.2% | 1.2% | 0.0% | 0.0% | 1.2% | 0.0% |
| Other | Bulgaria | 1 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 11 | 63.6% | 63.6% | 27.3% | 0.0% | 63.6% | 54.5% | 0.0% |
| Other | China | 1158 | 0.5% | 0.5% | 0.3% | 0.1% | 0.3% | 0.5% | 0.1% |
| Other | Hungary | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | India | 14 | 100.0% | 100.0% | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% |
| Other | Israel | 8 | 62.5% | 62.5% | 62.5% | 37.5% | 25.0% | 50.0% | 12.5% |
| Other | Korea | 941 | 7.5% | 7.5% | 3.9% | 5.3% | 4.5% | 6.7% | 2.0% |
| Other | Malay | 0 | | | | | | | |
| Other | Mexico | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 12 | 41.7% | 41.7% | 25.0% | 8.3% | 16.7% | 25.0% | 8.3% |
| Other | Norway | 2 | 50.0% | 50.0% | 50.0% | 0.0% | 0.0% | 50.0% | 0.0% |
| Other | Philipp | 0 | | | | | | | |
| Other | Poland | 50 | 4.0% | 4.0% | 4.0% | 0.0% | 0.0% | 4.0% | 0.0% |
| Other | Romania | 4 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 127 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | SouthAfr | 14 | 21.4% | 21.4% | 21.4% | 0.0% | 7.1% | 21.4% | 0.0% |
| Other | Singapore | 2 | 50.0% | 50.0% | 50.0% | 0.0% | 50.0% | 50.0% | 0.0% |
| <i>Subtotal for Other</i> | | 2478 | 4.8% | 4.8% | 3.1% | 2.2% | 2.3% | 4.3% | 0.9% |
| <i>Total</i> | | 10748 | | | | | | | |

YEAR: 1999

5. IPC = E

Fixed Constructions

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 309 | 20.1% | 4.2% | -- | 1.3% | 3.9% | 18.8% | 1.0% |
| EPC | Belgium | 78 | 15.4% | 6.4% | -- | 0.0% | 6.4% | 9.0% | 0.0% |
| EPC | Denmark | 98 | 44.9% | 7.1% | -- | 2.0% | 5.1% | 43.9% | 0.0% |
| EPC | EPO | 320 | 33.8% | 18.1% | -- | 2.8% | 17.2% | 29.4% | 1.9% |
| EPC | Finland | 203 | 19.2% | 3.0% | -- | 1.5% | 2.0% | 19.2% | 0.5% |
| EPC | France | 824 | 18.7% | 8.1% | -- | 3.0% | 6.4% | 14.2% | 1.3% |
| EPC | Germany | 5049 | 9.7% | 3.8% | -- | 1.1% | 3.3% | 7.4% | 0.6% |
| EPC | Greece | 40 | 5.0% | 0.0% | -- | 0.0% | 0.0% | 5.0% | 0.0% |
| EPC | Ireland | 18 | 22.2% | 5.6% | -- | 0.0% | 5.6% | 22.2% | 0.0% |
| EPC | Italy | 506 | 15.8% | 6.9% | -- | 1.6% | 5.9% | 11.1% | 0.6% |
| EPC | Luxem. | 4 | 25.0% | 25.0% | -- | 0.0% | 25.0% | 25.0% | 0.0% |
| EPC | Monaco | 1 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 301 | 20.6% | 4.7% | -- | 1.3% | 4.3% | 18.6% | 1.0% |
| EPC | Portugal | 15 | 13.3% | 0.0% | -- | 0.0% | 0.0% | 13.3% | 0.0% |
| EPC | Spain | 549 | 7.1% | 1.8% | -- | 0.2% | 1.8% | 6.2% | 0.2% |
| EPC | Sweden | 187 | 58.3% | 9.6% | -- | 4.3% | 7.5% | 54.0% | 2.1% |
| EPC | Switzerl. | 100 | 46.0% | 8.0% | -- | 3.0% | 7.0% | 43.0% | 2.0% |
| EPC | Turkey | 44 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1051 | 32.1% | 9.3% | -- | 1.6% | 8.4% | 28.2% | 0.7% |
| <i>Subtotal for EPC</i> | | 9697 | 16.9% | 6.0% | -- | 1.5% | 4.8% | 13.7% | 0.8% |
| Japan | Jpn | 18178 | 2.3% | 1.8% | 1.4% | -- | 1.1% | 1.2% | 0.6% |
| US | USA | 4137 | 31.4% | 19.6% | 19.3% | 1.7% | -- | 26.4% | 1.4% |
| Other | Argen | 7 | 42.9% | 42.9% | 14.3% | 0.0% | 0.0% | 14.3% | 0.0% |
| Other | Austral | 840 | 11.3% | 11.3% | 8.0% | 2.0% | 3.7% | 11.0% | 0.0% |
| Other | Brazil | 680 | 1.5% | 1.5% | 0.6% | 0.0% | 1.0% | 1.5% | 0.0% |
| Other | Bulgaria | 24 | 100.0% | 100.0% | 8.3% | 0.0% | 0.0% | 8.3% | 0.0% |
| Other | Canada | 111 | 79.3% | 79.3% | 20.7% | 1.8% | 18.0% | 27.0% | 0.0% |
| Other | China | 4920 | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.0% |
| Other | Hungary | 71 | 2.8% | 2.8% | 2.8% | 0.0% | 1.4% | 2.8% | 0.0% |
| Other | India | 0 | | | | | | | |
| Other | Israel | 25 | 52.0% | 52.0% | 40.0% | 0.0% | 12.0% | 36.0% | 0.0% |
| Other | Korea | 2631 | 3.2% | 3.2% | 1.9% | 1.6% | 0.9% | 2.7% | 0.2% |
| Other | Malay | 1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Other | Mexico | 5 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 96 | 21.9% | 21.9% | 14.6% | 2.1% | 7.3% | 19.8% | 0.0% |
| Other | Norway | 125 | 44.0% | 44.0% | 43.2% | 0.0% | 5.6% | 44.0% | 0.0% |
| Other | Philipp | 0 | | | | | | | |
| Other | Poland | 478 | 0.6% | 0.6% | 0.6% | 0.2% | 0.0% | 0.6% | 0.0% |
| Other | Romania | 19 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 1091 | 0.4% | 0.4% | 0.4% | 0.0% | 0.2% | 0.4% | 0.0% |
| Other | SouthAfr | 244 | 4.9% | 4.9% | 4.1% | 0.0% | 2.5% | 4.9% | 0.0% |
| Other | Singapore | 17 | 35.3% | 35.3% | 23.5% | 0.0% | 0.0% | 23.5% | 0.0% |
| <i>Subtotal for Other</i> | | 11385 | 3.8% | 3.8% | 2.2% | 0.6% | 1.0% | 2.8% | 0.1% |
| <i>Total</i> | | 43397 | | | | | | | |

YEAR: 1999

6. IPC = F

Mechanical Engineering

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 355 | 21.1% | 13.2% | -- | 3.1% | 11.8% | 10.7% | 1.7% |
| EPC | Belgium | 59 | 27.1% | 11.9% | -- | 10.2% | 8.5% | 25.4% | 6.8% |
| EPC | Denmark | 103 | 40.8% | 7.8% | -- | 2.9% | 4.9% | 38.8% | 0.0% |
| EPC | EPO | 602 | 34.2% | 22.6% | -- | 12.5% | 18.6% | 20.3% | 8.8% |
| EPC | Finland | 219 | 34.2% | 10.0% | -- | 3.2% | 9.1% | 29.7% | 2.3% |
| EPC | France | 1538 | 31.0% | 18.5% | -- | 9.8% | 14.4% | 20.5% | 5.7% |
| EPC | Germany | 9698 | 22.5% | 15.3% | -- | 6.8% | 12.3% | 10.8% | 3.9% |
| EPC | Greece | 27 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 19 | 36.8% | 5.3% | -- | 0.0% | 5.3% | 31.6% | 0.0% |
| EPC | Italy | 837 | 23.4% | 14.9% | -- | 3.2% | 13.9% | 15.7% | 2.2% |
| EPC | Luxem. | 9 | 66.7% | 22.2% | -- | 0.0% | 22.2% | 55.6% | 0.0% |
| EPC | Monaco | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 243 | 32.1% | 9.1% | -- | 3.3% | 7.0% | 28.4% | 1.2% |
| EPC | Portugal | 10 | 30.0% | 0.0% | -- | 0.0% | 0.0% | 30.0% | 0.0% |
| EPC | Spain | 385 | 10.4% | 5.2% | -- | 1.0% | 4.4% | 7.0% | 0.3% |
| EPC | Sweden | 309 | 59.2% | 16.5% | -- | 5.8% | 12.6% | 52.4% | 1.9% |
| EPC | Switzerl. | 74 | 58.1% | 24.3% | -- | 16.2% | 17.6% | 44.6% | 9.5% |
| EPC | Turkey | 92 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 19.6% | 0.0% |
| EPC | UK | 1208 | 44.7% | 23.0% | -- | 6.8% | 19.7% | 29.0% | 3.5% |
| <i>Subtotal for EPC</i> | | 15789 | 27.0% | 16.4% | -- | 6.8% | 12.9% | 15.5% | 3.9% |
| Japan | Jpn | 30461 | 12.9% | 12.0% | 9.1% | -- | 8.4% | 3.7% | 5.6% |
| US | USA | 9130 | 35.0% | 27.0% | 26.2% | 9.5% | -- | 21.3% | 8.6% |
| Other | Argen | 15 | 53.3% | 53.3% | 33.3% | 13.3% | 26.7% | 26.7% | 6.7% |
| Other | Austral | 641 | 22.0% | 22.0% | 17.0% | 1.6% | 4.8% | 18.3% | 0.3% |
| Other | Brazil | 653 | 6.1% | 6.1% | 4.9% | 0.5% | 3.2% | 6.1% | 0.5% |
| Other | Bulgaria | 65 | 100.0% | 100.0% | 7.7% | 0.0% | 0.0% | 7.7% | 0.0% |
| Other | Canada | 74 | 70.3% | 70.3% | 28.4% | 4.1% | 24.3% | 35.1% | 2.7% |
| Other | China | 9242 | 0.5% | 0.5% | 0.3% | 0.2% | 0.4% | 0.5% | 0.1% |
| Other | Hungary | 75 | 4.0% | 4.0% | 4.0% | 0.0% | 0.0% | 4.0% | 0.0% |
| Other | India | 9 | 66.7% | 66.7% | 33.3% | 22.2% | 11.1% | 33.3% | 11.1% |
| Other | Israel | 38 | 68.4% | 68.4% | 42.1% | 2.6% | 10.5% | 47.4% | 0.0% |
| Other | Korea | 5885 | 6.3% | 6.3% | 3.6% | 3.8% | 4.4% | 5.5% | 1.8% |
| Other | Malay | 6 | 66.7% | 66.7% | 16.7% | 0.0% | 0.0% | 16.7% | 0.0% |
| Other | Mexico | 13 | 38.5% | 38.5% | 7.7% | 0.0% | 0.0% | 7.7% | 0.0% |
| Other | NewZeal | 57 | 26.3% | 26.3% | 26.3% | 5.3% | 1.8% | 26.3% | 0.0% |
| Other | Norway | 99 | 42.4% | 42.4% | 41.4% | 3.0% | 4.0% | 41.4% | 2.0% |
| Other | Philipp | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 412 | 1.0% | 1.0% | 0.7% | 0.0% | 0.2% | 1.0% | 0.0% |
| Other | Romania | 29 | 6.9% | 6.9% | 6.9% | 0.0% | 0.0% | 6.9% | 0.0% |
| Other | Russia | 1905 | 1.8% | 1.8% | 1.4% | 0.1% | 1.0% | 1.8% | 0.1% |
| Other | SouthAfr | 177 | 5.1% | 5.1% | 4.0% | 0.6% | 0.6% | 4.5% | 0.0% |
| Other | Singapore | 16 | 43.8% | 43.8% | 25.0% | 0.0% | 31.3% | 37.5% | 0.0% |
| <i>Subtotal for Other</i> | | 19412 | 4.5% | 4.5% | 2.8% | 1.4% | 2.1% | 3.6% | 0.7% |
| <i>Total</i> | | 74792 | | | | | | | |

YEAR: 1999

7. IPC = G

Physics

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 179 | 34.6% | 14.5% | -- | 8.4% | 8.9% | 23.5% | 2.8% |
| EPC | Belgium | 56 | 25.0% | 7.1% | -- | 3.6% | 3.6% | 23.2% | 0.0% |
| EPC | Denmark | 135 | 73.3% | 11.9% | -- | 3.0% | 9.6% | 71.9% | 0.7% |
| EPC | EPO | 2210 | 44.7% | 30.3% | -- | 17.3% | 20.0% | 25.6% | 7.1% |
| EPC | Finland | 274 | 53.3% | 18.6% | -- | 6.6% | 14.2% | 48.2% | 2.2% |
| EPC | France | 1728 | 42.0% | 21.6% | -- | 10.8% | 15.2% | 27.8% | 4.3% |
| EPC | Germany | 8213 | 23.6% | 15.6% | -- | 9.0% | 10.5% | 11.5% | 3.9% |
| EPC | Greece | 34 | 17.6% | 0.0% | -- | 0.0% | 0.0% | 17.6% | 0.0% |
| EPC | Ireland | 81 | 60.5% | 22.2% | -- | 2.5% | 19.8% | 49.4% | 0.0% |
| EPC | Italy | 576 | 26.7% | 12.2% | -- | 3.8% | 10.4% | 17.9% | 2.1% |
| EPC | Luxem. | 8 | 12.5% | 12.5% | -- | 0.0% | 12.5% | 0.0% | 0.0% |
| EPC | Monaco | 4 | 50.0% | 25.0% | -- | 25.0% | 0.0% | 25.0% | 0.0% |
| EPC | Netherl. | 262 | 42.7% | 9.9% | -- | 4.2% | 7.3% | 38.9% | 1.5% |
| EPC | Portugal | 9 | 11.1% | 0.0% | -- | 0.0% | 0.0% | 11.1% | 0.0% |
| EPC | Spain | 427 | 10.8% | 2.1% | -- | 0.7% | 1.6% | 9.8% | 0.2% |
| EPC | Sweden | 451 | 73.4% | 21.1% | -- | 9.3% | 15.5% | 69.0% | 3.8% |
| EPC | Switzerl. | 196 | 71.4% | 35.2% | -- | 23.5% | 25.5% | 56.6% | 13.8% |
| EPC | Turkey | 25 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 20.0% | 0.0% |
| EPC | UK | 2359 | 53.6% | 20.9% | -- | 9.7% | 13.9% | 41.2% | 2.8% |
| <i>Subtotal for EPC</i> | | 17227 | 35.5% | 18.7% | -- | 9.9% | 12.7% | 23.0% | 4.0% |
| Japan | Jpn | 83799 | 13.7% | 12.6% | 7.6% | -- | 8.2% | 4.5% | 3.1% |
| US | USA | 34423 | 44.0% | 29.6% | 27.1% | 10.7% | -- | 32.3% | 8.3% |
| Other | Argen | 10 | 70.0% | 70.0% | 50.0% | 40.0% | 20.0% | 50.0% | 0.0% |
| Other | Austral | 994 | 24.4% | 24.4% | 18.7% | 5.1% | 5.5% | 23.1% | 0.5% |
| Other | Brazil | 740 | 1.8% | 1.8% | 1.4% | 0.3% | 0.7% | 1.6% | 0.1% |
| Other | Bulgaria | 30 | 100.0% | 100.0% | 13.3% | 0.0% | 0.0% | 13.3% | 0.0% |
| Other | Canada | 190 | 65.3% | 65.3% | 32.1% | 7.4% | 22.1% | 38.9% | 6.3% |
| Other | China | 6510 | 0.9% | 0.9% | 0.5% | 0.4% | 0.5% | 0.9% | 0.1% |
| Other | Hungary | 88 | 12.5% | 12.5% | 12.5% | 2.3% | 0.0% | 12.5% | 0.0% |
| Other | India | 10 | 60.0% | 60.0% | 50.0% | 10.0% | 20.0% | 40.0% | 0.0% |
| Other | Israel | 200 | 65.5% | 65.5% | 49.0% | 7.5% | 22.0% | 51.0% | 2.5% |
| Other | Korea | 8998 | 13.9% | 13.9% | 4.7% | 8.5% | 7.7% | 11.9% | 1.7% |
| Other | Malay | 13 | 69.2% | 69.2% | 30.8% | 15.4% | 7.7% | 30.8% | 0.0% |
| Other | Mexico | 1 | 100.0% | 100.0% | 100.0% | 0.0% | 100.0% | 100.0% | 0.0% |
| Other | NewZeal | 107 | 24.3% | 24.3% | 21.5% | 0.0% | 4.7% | 24.3% | 0.0% |
| Other | Norway | 118 | 44.9% | 44.9% | 42.4% | 2.5% | 5.9% | 44.9% | 0.0% |
| Other | Philipp | 0 | | | | | | | |
| Other | Poland | 356 | 0.6% | 0.6% | 0.6% | 0.0% | 0.0% | 0.6% | 0.0% |
| Other | Romania | 35 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 1686 | 2.3% | 2.3% | 1.8% | 0.3% | 0.5% | 2.1% | 0.1% |
| Other | SouthAfr | 165 | 15.2% | 15.2% | 13.3% | 1.2% | 0.0% | 13.3% | 0.0% |
| Other | Singapore | 104 | 50.0% | 50.0% | 29.8% | 9.6% | 11.5% | 39.4% | 0.0% |
| <i>Subtotal for Other</i> | | 20355 | 10.2% | 10.2% | 4.9% | 4.4% | 4.5% | 8.6% | 0.9% |
| <i>Total</i> | | 155804 | | | | | | | |

YEAR: 1999

8. IPC = H

Electricity

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 143 | 30.8% | 12.6% | -- | 7.0% | 9.1% | 22.4% | 3.5% |
| EPC | Belgium | 25 | 32.0% | 12.0% | -- | 4.0% | 8.0% | 28.0% | 0.0% |
| EPC | Denmark | 95 | 76.8% | 13.7% | -- | 6.3% | 8.4% | 75.8% | 1.1% |
| EPC | EPO | 2717 | 47.3% | 31.0% | -- | 16.0% | 20.2% | 31.9% | 5.2% |
| EPC | Finland | 619 | 78.4% | 33.4% | -- | 10.0% | 26.8% | 71.7% | 3.4% |
| EPC | France | 1989 | 45.6% | 29.9% | -- | 19.8% | 17.4% | 26.8% | 7.4% |
| EPC | Germany | 8345 | 27.8% | 17.5% | -- | 8.1% | 13.0% | 15.9% | 3.6% |
| EPC | Greece | 16 | 12.5% | 0.0% | -- | 0.0% | 0.0% | 12.5% | 0.0% |
| EPC | Ireland | 48 | 64.6% | 22.9% | -- | 0.0% | 22.9% | 60.4% | 0.0% |
| EPC | Italy | 538 | 36.2% | 20.1% | -- | 4.5% | 16.4% | 19.9% | 0.7% |
| EPC | Luxem. | 6 | 66.7% | 0.0% | -- | 0.0% | 0.0% | 66.7% | 0.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 182 | 51.1% | 17.6% | -- | 7.1% | 13.7% | 43.4% | 3.3% |
| EPC | Portugal | 11 | 9.1% | 9.1% | -- | 0.0% | 9.1% | 9.1% | 0.0% |
| EPC | Spain | 304 | 17.4% | 4.6% | -- | 1.0% | 3.6% | 15.1% | 0.0% |
| EPC | Sweden | 676 | 81.1% | 26.8% | -- | 7.2% | 22.5% | 78.3% | 3.0% |
| EPC | Switzerl. | 133 | 78.9% | 30.8% | -- | 21.1% | 22.6% | 73.7% | 12.8% |
| EPC | Turkey | 33 | 100.0% | 100.0% | -- | 0.0% | 3.0% | 27.3% | 0.0% |
| EPC | UK | 2044 | 58.4% | 25.6% | -- | 14.0% | 15.5% | 44.8% | 3.9% |
| <i>Subtotal for EPC</i> | | 17924 | 41.2% | 22.8% | -- | 11.1% | 15.7% | 28.4% | 4.1% |
| Japan | Jpn | 80011 | 15.8% | 14.4% | 9.7% | -- | 9.0% | 6.7% | 4.3% |
| US | USA | 28591 | 43.5% | 32.5% | 30.0% | 12.5% | -- | 31.3% | 10.0% |
| Other | Argen | 4 | 50.0% | 50.0% | 50.0% | 0.0% | 25.0% | 25.0% | 0.0% |
| Other | Austral | 530 | 23.4% | 23.4% | 19.4% | 3.6% | 4.9% | 21.7% | 0.2% |
| Other | Brazil | 462 | 0.6% | 0.6% | 0.6% | 0.0% | 0.4% | 0.6% | 0.0% |
| Other | Bulgaria | 25 | 100.0% | 100.0% | 12.0% | 0.0% | 0.0% | 12.0% | 0.0% |
| Other | Canada | 157 | 74.5% | 74.5% | 41.4% | 10.2% | 28.7% | 44.6% | 5.1% |
| Other | China | 6508 | 1.0% | 1.0% | 0.7% | 0.1% | 0.5% | 0.9% | 0.0% |
| Other | Hungary | 49 | 10.2% | 10.2% | 10.2% | 0.0% | 2.0% | 10.2% | 0.0% |
| Other | India | 9 | 44.4% | 44.4% | 22.2% | 0.0% | 22.2% | 0.0% | 0.0% |
| Other | Israel | 116 | 65.5% | 65.5% | 44.8% | 11.2% | 19.8% | 48.3% | 2.6% |
| Other | Korea | 16829 | 11.4% | 11.4% | 3.8% | 6.2% | 5.9% | 9.4% | 1.0% |
| Other | Malay | 4 | 75.0% | 75.0% | 0.0% | 25.0% | 25.0% | 25.0% | 0.0% |
| Other | Mexico | 3 | 33.3% | 33.3% | 33.3% | 0.0% | 33.3% | 33.3% | 0.0% |
| Other | NewZeal | 61 | 32.8% | 32.8% | 27.9% | 1.6% | 11.5% | 31.1% | 0.0% |
| Other | Norway | 85 | 40.0% | 40.0% | 37.6% | 2.4% | 5.9% | 40.0% | 0.0% |
| Other | Philipp | 1 | 100.0% | 100.0% | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% |
| Other | Poland | 254 | 2.0% | 2.0% | 2.0% | 0.0% | 0.0% | 2.0% | 0.0% |
| Other | Romania | 19 | 5.3% | 5.3% | 5.3% | 0.0% | 0.0% | 5.3% | 0.0% |
| Other | Russia | 885 | 2.1% | 2.1% | 1.7% | 0.2% | 0.7% | 2.0% | 0.1% |
| Other | SouthAfr | 118 | 21.2% | 21.2% | 19.5% | 6.8% | 5.9% | 18.6% | 3.4% |
| Other | Singapore | 93 | 50.5% | 50.5% | 33.3% | 12.9% | 11.8% | 40.9% | 1.1% |
| <i>Subtotal for Other</i> | | 26212 | 9.5% | 9.5% | 4.0% | 4.3% | 4.4% | 7.8% | 0.7% |
| <i>Total</i> | | 152738 | | | | | | | |

YEAR: 1994

1. IPC = A

Human Necessities

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|--------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | | | | | | <u>Families</u> |
| EPC | Austria | 367 | 27.0% | 20.2% | -- | 11.7% | 16.3% | 14.7% | 7.9% |
| EPC | Belgium | 155 | 22.6% | 13.5% | -- | 8.4% | 11.6% | 17.4% | 6.5% |
| EPC | Denmark | 344 | 39.2% | 25.3% | -- | 18.3% | 20.6% | 36.0% | 13.7% |
| EPC | EPO | 1107 | 42.2% | 28.9% | -- | 18.2% | 25.7% | 33.7% | 14.9% |
| EPC | Finland | 424 | 19.6% | 13.2% | -- | 6.8% | 11.8% | 16.7% | 5.4% |
| EPC | France | 2276 | 30.1% | 25.6% | -- | 18.0% | 22.7% | 21.4% | 15.1% |
| EPC | Germany | 7897 | 15.8% | 12.9% | -- | 7.8% | 11.0% | 9.5% | 6.0% |
| EPC | Greece | 68 | 7.4% | 2.9% | -- | 2.9% | 2.9% | 7.4% | 2.9% |
| EPC | Ireland | 159 | 22.6% | 14.5% | -- | 7.5% | 12.6% | 20.8% | 5.7% |
| EPC | Italy | 2113 | 15.2% | 12.0% | -- | 6.3% | 10.6% | 11.0% | 5.0% |
| EPC | Luxem. | 8 | 75.0% | 12.5% | -- | 0.0% | 12.5% | 75.0% | 0.0% |
| EPC | Monaco | 6 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 373 | 34.9% | 27.9% | -- | 18.2% | 24.4% | 22.5% | 14.7% |
| EPC | Portugal | 57 | 5.3% | 3.5% | -- | 1.8% | 3.5% | 5.3% | 1.8% |
| EPC | Spain | 1433 | 5.7% | 3.8% | -- | 2.0% | 2.9% | 4.0% | 1.0% |
| EPC | Sweden | 564 | 62.6% | 47.9% | -- | 38.1% | 42.2% | 52.1% | 32.4% |
| EPC | Switzerl. | 350 | 40.9% | 31.7% | -- | 20.6% | 26.0% | 32.9% | 14.9% |
| EPC | Turkey | 16 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 6.3% | 0.0% |
| EPC | UK | 1969 | 51.8% | 37.1% | -- | 22.4% | 31.9% | 43.0% | 17.2% |
| <i>Subtotal for EPC</i> | | 19686 | 24.7% | 18.9% | -- | 11.9% | 16.3% | 18.1% | 9.4% |
| Japan | Jpn | 28084 | 7.3% | 6.5% | 4.5% | -- | 5.5% | 3.7% | 3.5% |
| US | USA | 23170 | 27.7% | 19.7% | 19.1% | 14.0% | -- | 24.5% | 13.4% |
| Other | Argen | 19 | 52.6% | 52.6% | 36.8% | 5.3% | 31.6% | 36.8% | 5.3% |
| Other | Austral | 1332 | 16.3% | 16.3% | 12.1% | 5.9% | 11.5% | 16.0% | 3.9% |
| Other | Brazil | 1318 | 1.6% | 1.6% | 1.4% | 0.5% | 0.8% | 1.6% | 0.2% |
| Other | Bulgaria | 110 | 100.0% | 100.0% | 0.9% | 0.9% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 805 | 22.9% | 22.9% | 9.6% | 4.2% | 19.0% | 21.7% | 3.1% |
| Other | China | 12405 | 0.2% | 0.2% | 0.2% | 0.1% | 0.1% | 0.2% | 0.0% |
| Other | Hungary | 340 | 4.1% | 4.1% | 3.2% | 1.8% | 2.6% | 3.8% | 1.5% |
| Other | India | 77 | 7.8% | 7.8% | 1.3% | 0.0% | 1.3% | 1.3% | 0.0% |
| Other | Israel | 163 | 59.5% | 59.5% | 40.5% | 19.6% | 46.6% | 54.6% | 17.8% |
| Other | Korea | 3548 | 5.2% | 5.2% | 2.3% | 3.0% | 3.0% | 4.1% | 1.0% |
| Other | Malay | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 5 | 60.0% | 60.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 203 | 24.1% | 24.1% | 17.7% | 9.4% | 17.2% | 23.2% | 6.4% |
| Other | Norway | 121 | 37.2% | 37.2% | 33.9% | 18.2% | 21.5% | 31.4% | 18.2% |
| Other | Philipp | 21 | 4.8% | 4.8% | 4.8% | 0.0% | 4.8% | 4.8% | 0.0% |
| Other | Poland | 615 | 0.8% | 0.8% | 0.5% | 0.0% | 0.2% | 0.5% | 0.0% |
| Other | Romania | 179 | 0.6% | 0.6% | 0.0% | 0.0% | 0.6% | 0.6% | 0.0% |
| Other | Russia | 2646 | 0.8% | 0.8% | 0.7% | 0.2% | 0.4% | 0.7% | 0.2% |
| Other | SouthAfr | 333 | 14.1% | 14.1% | 10.5% | 4.2% | 9.0% | 13.8% | 3.6% |
| Other | Singapore | 193 | 9.3% | 9.3% | 9.3% | 8.8% | 8.8% | 9.3% | 8.3% |
| <i>Subtotal for Other</i> | | 24434 | 4.3% | 4.3% | 2.4% | 1.5% | 2.7% | 3.5% | 0.9% |
| <i>Total</i> | | 95374 | | | | | | | |

YEAR: 1994

2. IPC = B

Performing Operations

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 456 | 25.9% | 18.0% | -- | 9.6% | 15.6% | 17.5% | 7.2% |
| EPC | Belgium | 195 | 23.1% | 15.4% | -- | 9.2% | 13.3% | 15.4% | 7.2% |
| EPC | Denmark | 258 | 37.2% | 21.7% | -- | 14.7% | 18.6% | 31.4% | 11.6% |
| EPC | EPO | 1162 | 40.2% | 29.7% | -- | 17.1% | 26.1% | 22.5% | 13.6% |
| EPC | Finland | 574 | 31.9% | 22.0% | -- | 15.0% | 19.9% | 28.0% | 12.9% |
| EPC | France | 2747 | 26.8% | 22.8% | -- | 14.0% | 20.0% | 16.7% | 11.2% |
| EPC | Germany | 15065 | 19.9% | 17.6% | -- | 11.9% | 15.0% | 9.2% | 9.3% |
| EPC | Greece | 37 | 8.1% | 5.4% | -- | 0.0% | 5.4% | 5.4% | 0.0% |
| EPC | Ireland | 101 | 13.9% | 7.9% | -- | 2.0% | 6.9% | 12.9% | 1.0% |
| EPC | Italy | 2498 | 16.8% | 12.9% | -- | 6.3% | 11.5% | 11.0% | 4.9% |
| EPC | Luxem. | 22 | 31.8% | 22.7% | -- | 13.6% | 22.7% | 31.8% | 13.6% |
| EPC | Monaco | 3 | 33.3% | 33.3% | -- | 33.3% | 33.3% | 33.3% | 33.3% |
| EPC | Netherl. | 479 | 38.8% | 29.2% | -- | 19.0% | 26.3% | 26.9% | 16.1% |
| EPC | Portugal | 51 | 3.9% | 2.0% | -- | 0.0% | 2.0% | 3.9% | 0.0% |
| EPC | Spain | 1100 | 7.5% | 4.5% | -- | 2.3% | 3.5% | 5.0% | 1.3% |
| EPC | Sweden | 697 | 52.5% | 38.6% | -- | 27.0% | 33.3% | 41.0% | 21.7% |
| EPC | Switzerl. | 539 | 55.1% | 46.6% | -- | 33.8% | 40.3% | 37.1% | 27.5% |
| EPC | Turkey | 16 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 2248 | 44.5% | 31.5% | -- | 16.2% | 27.6% | 32.6% | 12.4% |
| <i>Subtotal for EPC</i> | | 28248 | 24.9% | 20.1% | -- | 12.7% | 17.4% | 14.8% | 10.0% |
| Japan | Jpn | 64084 | 8.3% | 7.8% | 5.2% | -- | 7.0% | 3.2% | 4.4% |
| US | USA | 22400 | 27.1% | 19.9% | 18.5% | 13.0% | -- | 20.3% | 11.6% |
| Other | Argen | 9 | 77.8% | 77.8% | 0.0% | 0.0% | 11.1% | 11.1% | 0.0% |
| Other | Austral | 1152 | 17.5% | 17.5% | 12.2% | 6.9% | 13.2% | 16.8% | 5.3% |
| Other | Brazil | 1437 | 2.9% | 2.9% | 2.4% | 0.6% | 1.5% | 2.9% | 0.3% |
| Other | Bulgaria | 78 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 710 | 24.8% | 24.8% | 10.1% | 3.9% | 21.0% | 24.4% | 3.1% |
| Other | China | 9871 | 0.5% | 0.5% | 0.3% | 0.2% | 0.3% | 0.4% | 0.1% |
| Other | Hungary | 157 | 5.1% | 5.1% | 3.2% | 0.6% | 1.3% | 3.2% | 0.0% |
| Other | India | 16 | 12.5% | 12.5% | 12.5% | 0.0% | 0.0% | 12.5% | 0.0% |
| Other | Israel | 127 | 55.9% | 55.9% | 40.2% | 12.6% | 40.9% | 45.7% | 10.2% |
| Other | Korea | 6763 | 3.1% | 3.1% | 1.2% | 1.8% | 1.8% | 2.2% | 0.7% |
| Other | Malay | 5 | 60.0% | 60.0% | 40.0% | 20.0% | 20.0% | 20.0% | 0.0% |
| Other | Mexico | 13 | 53.8% | 53.8% | 15.4% | 0.0% | 0.0% | 15.4% | 0.0% |
| Other | NewZeal | 166 | 15.7% | 15.7% | 11.4% | 5.4% | 13.9% | 15.7% | 4.2% |
| Other | Norway | 147 | 37.4% | 37.4% | 36.7% | 14.3% | 23.8% | 37.4% | 11.6% |
| Other | Philipp | 15 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 872 | 1.9% | 1.9% | 1.7% | 0.1% | 0.6% | 1.7% | 0.1% |
| Other | Romania | 168 | 0.6% | 0.6% | 0.6% | 0.0% | 0.0% | 0.6% | 0.0% |
| Other | Russia | 2343 | 1.3% | 1.3% | 0.9% | 0.2% | 0.5% | 1.0% | 0.1% |
| Other | SouthAfr | 372 | 17.7% | 17.7% | 14.2% | 3.8% | 11.0% | 16.9% | 2.7% |
| Other | Singapore | 250 | 13.2% | 13.2% | 13.2% | 9.6% | 10.4% | 13.2% | 7.2% |
| <i>Subtotal for Other</i> | | 24671 | 4.4% | 4.4% | 2.5% | 1.4% | 2.7% | 3.6% | 0.9% |
| <i>Total</i> | | 139403 | | | | | | | |

YEAR: 1994

3. IPC = C

Chemistry & Metallurgy

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 174 | 50.6% | 39.7% | -- | 31.6% | 36.2% | 43.7% | 28.2% |
| EPC | Belgium | 133 | 55.6% | 45.9% | -- | 35.3% | 39.8% | 42.9% | 29.3% |
| EPC | Denmark | 181 | 81.2% | 62.4% | -- | 49.2% | 57.5% | 77.9% | 44.2% |
| EPC | EPO | 1514 | 47.7% | 32.9% | -- | 25.7% | 25.8% | 38.4% | 18.6% |
| EPC | Finland | 201 | 47.8% | 35.3% | -- | 25.4% | 30.3% | 40.3% | 20.4% |
| EPC | France | 1103 | 67.8% | 59.0% | -- | 49.2% | 49.9% | 56.7% | 40.1% |
| EPC | Germany | 4691 | 54.8% | 50.2% | -- | 43.5% | 40.7% | 37.2% | 33.9% |
| EPC | Greece | 14 | 14.3% | 14.3% | -- | 0.0% | 14.3% | 14.3% | 0.0% |
| EPC | Ireland | 58 | 22.4% | 12.1% | -- | 5.2% | 10.3% | 20.7% | 3.4% |
| EPC | Italy | 497 | 44.3% | 41.0% | -- | 32.0% | 36.2% | 35.0% | 27.2% |
| EPC | Luxem. | 15 | 46.7% | 40.0% | -- | 33.3% | 40.0% | 46.7% | 33.3% |
| EPC | Monaco | 7 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 108 | 65.7% | 49.1% | -- | 37.0% | 35.2% | 50.0% | 23.1% |
| EPC | Portugal | 8 | 12.5% | 12.5% | -- | 0.0% | 12.5% | 0.0% | 0.0% |
| EPC | Spain | 186 | 24.2% | 14.5% | -- | 11.3% | 11.8% | 23.1% | 8.6% |
| EPC | Sweden | 201 | 71.1% | 51.7% | -- | 41.3% | 45.8% | 60.7% | 35.3% |
| EPC | Switzerl. | 371 | 83.3% | 76.5% | -- | 72.2% | 65.8% | 70.6% | 61.5% |
| EPC | Turkey | 14 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1626 | 83.3% | 69.1% | -- | 56.7% | 56.7% | 69.7% | 44.3% |
| <i>Subtotal for EPC</i> | | 11102 | 59.7% | 50.9% | -- | 42.5% | 41.8% | 46.1% | 33.6% |
| Japan | Jpn | 33551 | 13.9% | 13.2% | 10.8% | -- | 11.7% | 7.1% | 9.3% |
| US | USA | 17831 | 33.6% | 27.6% | 26.8% | 21.7% | -- | 28.4% | 20.9% |
| Other | Argen | 4 | 75.0% | 75.0% | 50.0% | 50.0% | 50.0% | 75.0% | 25.0% |
| Other | Austral | 595 | 25.7% | 25.7% | 22.7% | 16.0% | 19.7% | 25.2% | 12.8% |
| Other | Brazil | 181 | 12.7% | 12.7% | 12.2% | 3.3% | 7.7% | 12.7% | 1.7% |
| Other | Bulgaria | 57 | 100.0% | 100.0% | 3.5% | 0.0% | 3.5% | 0.0% | 0.0% |
| Other | Canada | 341 | 24.9% | 24.9% | 12.6% | 10.0% | 20.2% | 23.2% | 7.3% |
| Other | China | 3135 | 0.8% | 0.8% | 0.5% | 0.3% | 0.6% | 0.7% | 0.3% |
| Other | Hungary | 184 | 8.7% | 8.7% | 8.2% | 4.9% | 4.3% | 8.2% | 3.8% |
| Other | India | 72 | 12.5% | 12.5% | 1.4% | 0.0% | 2.8% | 4.2% | 0.0% |
| Other | Israel | 123 | 43.1% | 43.1% | 30.1% | 17.1% | 34.1% | 39.0% | 14.6% |
| Other | Korea | 2299 | 11.9% | 11.9% | 6.2% | 9.6% | 8.2% | 10.6% | 4.4% |
| Other | Malay | 4 | 100.0% | 100.0% | 75.0% | 100.0% | 50.0% | 75.0% | 25.0% |
| Other | Mexico | 13 | 92.3% | 92.3% | 61.5% | 0.0% | 69.2% | 69.2% | 0.0% |
| Other | NewZeal | 100 | 12.0% | 12.0% | 12.0% | 5.0% | 11.0% | 12.0% | 5.0% |
| Other | Norway | 77 | 32.5% | 32.5% | 32.5% | 14.3% | 23.4% | 32.5% | 13.0% |
| Other | Philipp | 5 | 20.0% | 20.0% | 0.0% | 0.0% | 20.0% | 20.0% | 0.0% |
| Other | Poland | 625 | 1.0% | 1.0% | 1.0% | 0.5% | 0.2% | 1.0% | 0.2% |
| Other | Romania | 272 | 0.4% | 0.4% | 0.4% | 0.0% | 0.4% | 0.4% | 0.0% |
| Other | Russia | 2254 | 1.8% | 1.8% | 1.7% | 0.7% | 0.9% | 1.7% | 0.5% |
| Other | SouthAfr | 147 | 24.5% | 24.5% | 20.4% | 6.8% | 15.6% | 22.4% | 6.1% |
| Other | Singapore | 327 | 11.3% | 11.3% | 11.3% | 8.6% | 8.0% | 11.3% | 6.7% |
| <i>Subtotal for Other</i> | | 10815 | 8.1% | 8.1% | 5.3% | 4.4% | 5.3% | 7.0% | 2.8% |
| <i>Total</i> | | 73299 | | | | | | | |

YEAR: 1994

4. IPC = D

Textiles & Paper

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 40 | 55.0% | 47.5% | -- | 40.0% | 47.5% | 35.0% | 40.0% |
| EPC | Belgium | 35 | 51.4% | 48.6% | -- | 17.1% | 48.6% | 11.4% | 17.1% |
| EPC | Denmark | 27 | 74.1% | 59.3% | -- | 55.6% | 51.9% | 55.6% | 48.1% |
| EPC | EPO | 131 | 43.5% | 31.3% | -- | 23.7% | 26.7% | 26.7% | 19.1% |
| EPC | Finland | 138 | 42.0% | 34.1% | -- | 21.0% | 29.0% | 34.1% | 15.9% |
| EPC | France | 146 | 40.4% | 32.2% | -- | 22.6% | 31.5% | 28.8% | 21.9% |
| EPC | Germany | 1085 | 36.3% | 33.5% | -- | 22.6% | 27.8% | 19.1% | 16.9% |
| EPC | Greece | 4 | 50.0% | 25.0% | -- | 0.0% | 25.0% | 50.0% | 0.0% |
| EPC | Ireland | 17 | 5.9% | 0.0% | -- | 0.0% | 0.0% | 5.9% | 0.0% |
| EPC | Italy | 296 | 24.3% | 21.6% | -- | 11.8% | 17.9% | 12.2% | 8.1% |
| EPC | Luxem. | 0 | | | -- | | | | |
| EPC | Monaco | 6 | 16.7% | 16.7% | -- | 16.7% | 0.0% | 16.7% | 0.0% |
| EPC | Netherl. | 16 | 50.0% | 37.5% | -- | 37.5% | 25.0% | 43.8% | 25.0% |
| EPC | Portugal | 3 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 47 | 8.5% | 4.3% | -- | 2.1% | 4.3% | 4.3% | 2.1% |
| EPC | Sweden | 96 | 69.8% | 59.4% | -- | 39.6% | 51.0% | 63.5% | 31.3% |
| EPC | Switzerl. | 77 | 57.1% | 55.8% | -- | 45.5% | 35.1% | 31.2% | 24.7% |
| EPC | Turkey | 2 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 153 | 61.4% | 47.7% | -- | 33.3% | 43.8% | 45.8% | 29.4% |
| <i>Subtotal for EPC</i> | | 2319 | 39.8% | 34.5% | -- | 23.4% | 29.2% | 24.5% | 18.1% |
| Japan | Jpn | 4738 | 8.2% | 7.2% | 5.8% | -- | 5.9% | 4.9% | 4.6% |
| US | USA | 1300 | 35.8% | 28.3% | 27.5% | 19.4% | -- | 29.8% | 18.5% |
| Other | Argen | 0 | | | | | | | |
| Other | Austral | 54 | 22.2% | 22.2% | 20.4% | 9.3% | 16.7% | 20.4% | 9.3% |
| Other | Brazil | 69 | 4.3% | 4.3% | 4.3% | 2.9% | 2.9% | 4.3% | 2.9% |
| Other | Bulgaria | 5 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 36 | 38.9% | 38.9% | 11.1% | 13.9% | 27.8% | 36.1% | 2.8% |
| Other | China | 779 | 0.5% | 0.5% | 0.0% | 0.5% | 0.0% | 0.5% | 0.0% |
| Other | Hungary | 6 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | India | 2 | 50.0% | 50.0% | 50.0% | 0.0% | 0.0% | 50.0% | 0.0% |
| Other | Israel | 7 | 28.6% | 28.6% | 0.0% | 0.0% | 28.6% | 28.6% | 0.0% |
| Other | Korea | 1180 | 4.4% | 4.4% | 1.2% | 3.9% | 3.2% | 4.1% | 0.8% |
| Other | Malay | 0 | | | | | | | |
| Other | Mexico | 0 | | | | | | | |
| Other | NewZeal | 11 | 36.4% | 36.4% | 18.2% | 36.4% | 9.1% | 36.4% | 9.1% |
| Other | Norway | 10 | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% |
| Other | Philipp | 4 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 41 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Romania | 31 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 116 | 0.9% | 0.9% | 0.0% | 0.0% | 0.9% | 0.9% | 0.0% |
| Other | SouthAfr | 19 | 5.3% | 5.3% | 5.3% | 0.0% | 5.3% | 5.3% | 0.0% |
| Other | Singapore | 17 | 11.8% | 11.8% | 11.8% | 11.8% | 11.8% | 11.8% | 11.8% |
| <i>Subtotal for Other</i> | | 2387 | 4.3% | 4.3% | 1.6% | 2.9% | 2.8% | 3.8% | 0.9% |
| <i>Total</i> | | 10744 | | | | | | | |

YEAR: 1994

5. IPC = E

Fixed Constructions

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|--------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 249 | 24.5% | 15.3% | -- | 8.4% | 14.1% | 20.5% | 7.2% |
| EPC | Belgium | 80 | 17.5% | 12.5% | -- | 6.3% | 11.3% | 13.7% | 5.0% |
| EPC | Denmark | 99 | 32.3% | 13.1% | -- | 6.1% | 12.1% | 31.3% | 5.1% |
| EPC | EPO | 204 | 31.9% | 17.6% | -- | 3.4% | 15.7% | 23.0% | 1.5% |
| EPC | Finland | 243 | 19.8% | 9.1% | -- | 6.6% | 7.0% | 18.1% | 4.5% |
| EPC | France | 856 | 12.1% | 6.8% | -- | 2.3% | 6.1% | 10.4% | 1.6% |
| EPC | Germany | 4460 | 10.0% | 5.0% | -- | 1.9% | 4.2% | 7.5% | 1.1% |
| EPC | Greece | 26 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 56 | 3.6% | 0.0% | -- | 0.0% | 0.0% | 3.6% | 0.0% |
| EPC | Italy | 609 | 8.7% | 5.6% | -- | 2.0% | 4.9% | 5.3% | 1.3% |
| EPC | Luxem. | 3 | 100.0% | 0.0% | -- | 0.0% | 0.0% | 100.0% | 0.0% |
| EPC | Monaco | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 169 | 22.5% | 11.2% | -- | 3.0% | 10.7% | 19.5% | 2.4% |
| EPC | Portugal | 32 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 479 | 3.3% | 1.5% | -- | 0.2% | 1.3% | 2.1% | 0.0% |
| EPC | Sweden | 227 | 45.4% | 19.4% | -- | 11.5% | 17.6% | 43.6% | 9.7% |
| EPC | Switzerl. | 178 | 28.1% | 18.5% | -- | 11.2% | 15.7% | 24.2% | 8.4% |
| EPC | Turkey | 4 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 919 | 28.0% | 18.3% | -- | 4.5% | 17.6% | 22.4% | 3.9% |
| Subtotal for EPC | | 8895 | 14.6% | 8.0% | -- | 3.0% | 7.1% | 11.6% | 2.1% |
| Japan | Jpn | 17437 | 2.1% | 1.6% | 1.1% | -- | 1.4% | 1.2% | 0.9% |
| US | USA | 3201 | 31.3% | 17.0% | 16.2% | 4.3% | -- | 28.0% | 3.6% |
| Other | Argen | 3 | 66.7% | 66.7% | 33.3% | 0.0% | 33.3% | 66.7% | 0.0% |
| Other | Austral | 824 | 12.0% | 12.0% | 7.8% | 2.5% | 9.0% | 11.5% | 1.8% |
| Other | Brazil | 448 | 1.3% | 1.3% | 1.3% | 0.0% | 0.9% | 1.3% | 0.0% |
| Other | Bulgaria | 31 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 302 | 30.8% | 30.8% | 9.6% | 2.0% | 27.8% | 30.1% | 1.7% |
| Other | China | 3534 | 0.2% | 0.2% | 0.1% | 0.1% | 0.1% | 0.2% | 0.0% |
| Other | Hungary | 73 | 2.7% | 2.7% | 1.4% | 0.0% | 0.0% | 1.4% | 0.0% |
| Other | India | 0 | | | | | | | |
| Other | Israel | 36 | 36.1% | 36.1% | 27.8% | 0.0% | 16.7% | 33.3% | 0.0% |
| Other | Korea | 1233 | 2.4% | 2.4% | 1.1% | 1.9% | 0.8% | 1.8% | 0.6% |
| Other | Malay | 7 | 42.9% | 42.9% | 42.9% | 0.0% | 42.9% | 14.3% | 0.0% |
| Other | Mexico | 8 | 62.5% | 62.5% | 0.0% | 12.5% | 12.5% | 12.5% | 0.0% |
| Other | NewZeal | 87 | 19.5% | 19.5% | 12.6% | 6.9% | 16.1% | 19.5% | 4.6% |
| Other | Norway | 97 | 25.8% | 25.8% | 25.8% | 2.1% | 14.4% | 25.8% | 2.1% |
| Other | Philipp | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 543 | 0.4% | 0.4% | 0.2% | 0.0% | 0.0% | 0.2% | 0.0% |
| Other | Romania | 52 | 1.9% | 1.9% | 1.9% | 0.0% | 0.0% | 1.9% | 0.0% |
| Other | Russia | 949 | 0.5% | 0.5% | 0.2% | 0.1% | 0.0% | 0.2% | 0.0% |
| Other | SouthAfr | 221 | 10.0% | 10.0% | 7.7% | 0.5% | 6.3% | 9.0% | 0.0% |
| Other | Singapore | 80 | 13.8% | 13.8% | 13.8% | 5.0% | 10.0% | 13.8% | 3.8% |
| Subtotal for Other | | 8529 | 4.4% | 4.4% | 2.3% | 0.8% | 2.8% | 3.7% | 0.4% |
| Total | | 38062 | | | | | | | |

YEAR: 1994

6. IPC = F

Mechanical Engineering

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|--------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | | | | | | <u>Families</u> |
| EPC | Austria | 307 | 15.3% | 7.8% | -- | 5.5% | 6.8% | 11.1% | 4.6% |
| EPC | Belgium | 67 | 32.8% | 19.4% | -- | 14.9% | 14.9% | 22.4% | 10.4% |
| EPC | Denmark | 127 | 40.2% | 27.6% | -- | 18.1% | 16.5% | 29.9% | 7.1% |
| EPC | EPO | 384 | 29.7% | 21.4% | -- | 10.2% | 18.5% | 19.0% | 7.3% |
| EPC | Finland | 180 | 35.6% | 26.7% | -- | 17.8% | 21.7% | 25.0% | 12.8% |
| EPC | France | 1394 | 30.8% | 27.5% | -- | 14.3% | 25.8% | 15.6% | 12.6% |
| EPC | Germany | 7295 | 21.0% | 18.2% | -- | 11.8% | 15.7% | 9.3% | 9.3% |
| EPC | Greece | 32 | 18.8% | 6.3% | -- | 3.1% | 6.3% | 15.6% | 3.1% |
| EPC | Ireland | 31 | 12.9% | 9.7% | -- | 6.5% | 6.5% | 12.9% | 3.2% |
| EPC | Italy | 903 | 12.5% | 9.2% | -- | 4.2% | 7.6% | 7.4% | 2.7% |
| EPC | Luxem. | 9 | 55.6% | 55.6% | -- | 33.3% | 33.3% | 33.3% | 11.1% |
| EPC | Monaco | 1 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 175 | 36.0% | 23.4% | -- | 13.1% | 19.4% | 23.4% | 9.1% |
| EPC | Portugal | 26 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 410 | 9.8% | 6.8% | -- | 2.2% | 6.3% | 6.6% | 1.7% |
| EPC | Sweden | 339 | 49.0% | 35.1% | -- | 22.1% | 31.3% | 39.8% | 18.3% |
| EPC | Switzerl. | 203 | 50.2% | 38.4% | -- | 27.1% | 36.5% | 38.4% | 25.1% |
| EPC | Turkey | 18 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 5.6% | 0.0% |
| EPC | UK | 1135 | 42.8% | 32.8% | -- | 15.3% | 29.1% | 25.8% | 11.6% |
| <i>Subtotal for EPC</i> | | 13036 | 25.0% | 20.4% | -- | 12.0% | 17.7% | 13.5% | 9.5% |
| Japan | Jpn | 28512 | 9.7% | 8.8% | 5.3% | -- | 8.1% | 3.8% | 4.6% |
| US | USA | 7866 | 28.7% | 21.3% | 20.3% | 12.7% | -- | 20.0% | 11.7% |
| Other | Argen | 5 | 60.0% | 60.0% | 60.0% | 0.0% | 40.0% | 60.0% | 0.0% |
| Other | Austral | 556 | 19.6% | 19.6% | 14.6% | 7.7% | 14.7% | 18.7% | 6.5% |
| Other | Brazil | 526 | 4.9% | 4.9% | 3.8% | 1.1% | 3.4% | 4.9% | 1.0% |
| Other | Bulgaria | 66 | 100.0% | 100.0% | 3.0% | 0.0% | 0.0% | 3.0% | 0.0% |
| Other | Canada | 237 | 30.4% | 30.4% | 12.7% | 3.0% | 26.6% | 29.1% | 2.5% |
| Other | China | 6650 | 0.3% | 0.3% | 0.2% | 0.0% | 0.2% | 0.3% | 0.0% |
| Other | Hungary | 103 | 2.9% | 2.9% | 2.9% | 0.0% | 1.9% | 2.9% | 0.0% |
| Other | India | 7 | 14.3% | 14.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 40 | 45.0% | 45.0% | 22.5% | 10.0% | 30.0% | 27.5% | 7.5% |
| Other | Korea | 3769 | 7.5% | 7.5% | 4.5% | 4.7% | 5.9% | 6.3% | 2.4% |
| Other | Malay | 3 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 3 | 66.7% | 66.7% | 33.3% | 0.0% | 33.3% | 66.7% | 0.0% |
| Other | NewZeal | 66 | 28.8% | 28.8% | 24.2% | 18.2% | 12.1% | 28.8% | 4.5% |
| Other | Norway | 87 | 44.8% | 44.8% | 42.5% | 11.5% | 27.6% | 44.8% | 10.3% |
| Other | Philipp | 10 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 599 | 0.5% | 0.5% | 0.5% | 0.0% | 0.0% | 0.5% | 0.0% |
| Other | Romania | 115 | 0.9% | 0.9% | 0.9% | 0.0% | 0.0% | 0.9% | 0.0% |
| Other | Russia | 1814 | 0.8% | 0.8% | 0.7% | 0.3% | 0.5% | 0.8% | 0.3% |
| Other | SouthAfr | 163 | 11.7% | 11.7% | 8.0% | 0.0% | 5.5% | 11.0% | 0.0% |
| Other | Singapore | 98 | 7.1% | 7.1% | 7.1% | 4.1% | 6.1% | 7.1% | 3.1% |
| <i>Subtotal for Other</i> | | 14917 | 4.7% | 4.7% | 2.8% | 1.8% | 3.1% | 3.9% | 1.1% |
| <i>Total</i> | | 64331 | | | | | | | |

YEAR: 1994

7. IPC = G

Physics

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 141 | 29.1% | 22.7% | -- | 15.6% | 20.6% | 14.9% | 13.5% |
| EPC | Belgium | 90 | 21.1% | 18.9% | -- | 12.2% | 16.7% | 8.9% | 10.0% |
| EPC | Denmark | 77 | 48.1% | 26.0% | -- | 16.9% | 22.1% | 46.8% | 13.0% |
| EPC | EPO | 1265 | 43.2% | 40.9% | -- | 31.5% | 36.3% | 14.3% | 27.1% |
| EPC | Finland | 171 | 40.4% | 32.2% | -- | 19.3% | 30.4% | 24.6% | 17.5% |
| EPC | France | 1556 | 42.9% | 38.9% | -- | 24.3% | 36.0% | 18.8% | 21.4% |
| EPC | Germany | 5973 | 23.1% | 20.8% | -- | 14.4% | 18.2% | 8.1% | 11.8% |
| EPC | Greece | 15 | 13.3% | 13.3% | -- | 0.0% | 13.3% | 6.7% | 0.0% |
| EPC | Ireland | 93 | 8.6% | 5.4% | -- | 3.2% | 4.3% | 7.5% | 2.2% |
| EPC | Italy | 556 | 19.2% | 13.8% | -- | 5.8% | 12.4% | 13.1% | 4.3% |
| EPC | Luxem. | 1 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 191 | 46.1% | 37.7% | -- | 24.6% | 30.4% | 28.3% | 17.3% |
| EPC | Portugal | 19 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 345 | 4.6% | 2.9% | -- | 0.9% | 2.9% | 2.9% | 0.9% |
| EPC | Sweden | 339 | 58.4% | 47.8% | -- | 33.9% | 41.9% | 39.5% | 28.0% |
| EPC | Switzerl. | 271 | 58.7% | 45.8% | -- | 34.3% | 38.4% | 39.5% | 26.9% |
| EPC | Turkey | 1 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1688 | 54.6% | 43.7% | -- | 28.9% | 37.7% | 31.1% | 23.0% |
| <i>Subtotal for EPC</i> | | 12792 | 33.3% | 28.8% | -- | 19.5% | 25.4% | 15.5% | 16.2% |
| Japan | Jpn | 75463 | 13.8% | 13.5% | 5.9% | -- | 12.8% | 3.7% | 5.3% |
| US | USA | 25834 | 24.7% | 20.8% | 18.1% | 16.3% | -- | 13.9% | 13.6% |
| Other | Argen | 5 | 60.0% | 60.0% | 20.0% | 0.0% | 20.0% | 20.0% | 0.0% |
| Other | Austral | 511 | 30.1% | 30.1% | 21.1% | 16.4% | 22.3% | 29.2% | 11.7% |
| Other | Brazil | 490 | 2.2% | 2.2% | 2.2% | 0.8% | 1.4% | 2.2% | 0.6% |
| Other | Bulgaria | 32 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 354 | 30.5% | 30.5% | 12.4% | 6.2% | 26.0% | 29.9% | 4.5% |
| Other | China | 4228 | 0.4% | 0.4% | 0.3% | 0.1% | 0.2% | 0.4% | 0.0% |
| Other | Hungary | 91 | 5.5% | 5.5% | 5.5% | 3.3% | 4.4% | 5.5% | 3.3% |
| Other | India | 5 | 60.0% | 60.0% | 20.0% | 0.0% | 20.0% | 0.0% | 0.0% |
| Other | Israel | 148 | 62.8% | 62.8% | 38.5% | 22.3% | 43.2% | 51.4% | 15.5% |
| Other | Korea | 4844 | 14.5% | 14.5% | 5.0% | 9.4% | 11.5% | 12.3% | 3.3% |
| Other | Malay | 0 | | | | | | | |
| Other | Mexico | 3 | 33.3% | 33.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 44 | 40.9% | 40.9% | 31.8% | 15.9% | 25.0% | 40.9% | 6.8% |
| Other | Norway | 67 | 52.2% | 52.2% | 47.8% | 19.4% | 38.8% | 52.2% | 16.4% |
| Other | Philipp | 0 | | | | | | | |
| Other | Poland | 411 | 0.5% | 0.5% | 0.5% | 0.0% | 0.2% | 0.5% | 0.0% |
| Other | Romania | 104 | 1.0% | 1.0% | 1.0% | 0.0% | 0.0% | 1.0% | 0.0% |
| Other | Russia | 1582 | 1.7% | 1.7% | 1.1% | 0.7% | 0.9% | 1.4% | 0.5% |
| Other | SouthAfr | 89 | 40.4% | 40.4% | 14.6% | 3.4% | 14.6% | 19.1% | 3.4% |
| Other | Singapore | 337 | 21.7% | 21.7% | 21.4% | 20.2% | 19.6% | 21.7% | 19.0% |
| <i>Subtotal for Other</i> | | 13345 | 9.9% | 9.9% | 4.7% | 5.3% | 7.4% | 8.4% | 2.6% |
| <i>Total</i> | | 127434 | | | | | | | |

YEAR: 1994

8. IPC = H

Electricity

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 139 | 30.2% | 21.6% | -- | 11.5% | 18.0% | 18.7% | 7.9% |
| EPC | Belgium | 39 | 43.6% | 38.5% | -- | 38.5% | 35.9% | 25.6% | 35.9% |
| EPC | Denmark | 56 | 51.8% | 26.8% | -- | 19.6% | 25.0% | 46.4% | 17.9% |
| EPC | EPO | 1301 | 50.6% | 47.3% | -- | 34.4% | 44.1% | 22.6% | 31.3% |
| EPC | Finland | 379 | 68.1% | 56.7% | -- | 42.2% | 54.4% | 55.9% | 39.8% |
| EPC | France | 1435 | 46.3% | 41.0% | -- | 26.6% | 37.5% | 20.4% | 23.0% |
| EPC | Germany | 5408 | 25.4% | 22.5% | -- | 15.1% | 19.3% | 10.1% | 11.9% |
| EPC | Greece | 6 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 40 | 25.0% | 17.5% | -- | 7.5% | 17.5% | 20.0% | 7.5% |
| EPC | Italy | 489 | 21.9% | 17.6% | -- | 11.9% | 15.5% | 16.0% | 9.8% |
| EPC | Luxem. | 1 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Monaco | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 148 | 59.5% | 50.0% | -- | 37.8% | 27.7% | 25.7% | 15.5% |
| EPC | Portugal | 6 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 246 | 12.2% | 7.3% | -- | 3.7% | 6.5% | 10.2% | 2.8% |
| EPC | Sweden | 330 | 63.9% | 52.1% | -- | 40.0% | 43.9% | 50.6% | 31.8% |
| EPC | Switzerl. | 175 | 49.7% | 43.4% | -- | 28.6% | 36.0% | 30.3% | 21.1% |
| EPC | Turkey | 3 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1380 | 56.9% | 48.8% | -- | 34.1% | 41.7% | 31.7% | 27.0% |
| <i>Subtotal for EPC</i> | | 11583 | 37.7% | 32.9% | -- | 22.7% | 28.8% | 19.1% | 18.7% |
| Japan | Jpn | 66392 | 14.0% | 13.6% | 6.4% | -- | 12.9% | 4.7% | 5.8% |
| US | USA | 20131 | 27.8% | 23.4% | 21.0% | 17.8% | -- | 17.3% | 15.4% |
| Other | Argen | 3 | 100.0% | 100.0% | 66.7% | 33.3% | 0.0% | 66.7% | 0.0% |
| Other | Austral | 339 | 21.2% | 21.2% | 13.9% | 9.4% | 17.1% | 20.1% | 7.1% |
| Other | Brazil | 341 | 4.1% | 4.1% | 3.5% | 2.1% | 3.8% | 4.1% | 1.8% |
| Other | Bulgaria | 36 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 279 | 36.2% | 36.2% | 19.4% | 8.2% | 32.3% | 35.5% | 6.5% |
| Other | China | 3608 | 0.5% | 0.5% | 0.2% | 0.1% | 0.4% | 0.5% | 0.1% |
| Other | Hungary | 78 | 11.5% | 11.5% | 10.3% | 6.4% | 6.4% | 10.3% | 3.8% |
| Other | India | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 81 | 60.5% | 60.5% | 38.3% | 22.2% | 43.2% | 50.6% | 17.3% |
| Other | Korea | 8681 | 11.3% | 11.3% | 4.4% | 7.0% | 9.3% | 9.6% | 2.8% |
| Other | Malay | 3 | 100.0% | 100.0% | 0.0% | 33.3% | 66.7% | 33.3% | 0.0% |
| Other | Mexico | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 54 | 20.4% | 20.4% | 20.4% | 3.7% | 13.0% | 20.4% | 3.7% |
| Other | Norway | 37 | 37.8% | 37.8% | 32.4% | 10.8% | 24.3% | 35.1% | 10.8% |
| Other | Philipp | 3 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 401 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Romania | 108 | 1.9% | 1.9% | 1.9% | 0.9% | 0.9% | 1.9% | 0.9% |
| Other | Russia | 1017 | 1.9% | 1.9% | 1.9% | 0.8% | 0.9% | 1.9% | 0.3% |
| Other | SouthAfr | 90 | 16.7% | 16.7% | 13.3% | 6.7% | 8.9% | 15.6% | 4.4% |
| Other | Singapore | 342 | 17.5% | 17.5% | 17.3% | 12.3% | 13.7% | 17.5% | 10.5% |
| <i>Subtotal for Other</i> | | 15504 | 9.1% | 9.1% | 4.2% | 4.9% | 7.1% | 7.8% | 2.3% |
| <i>Total</i> | | 113610 | | | | | | | |

YEAR: 1989

1. IPC = A

Human Necessities

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 304 | 32.2% | 26.0% | -- | 19.1% | 23.4% | 19.4% | 16.4% |
| EPC | Belgium | 102 | 17.6% | 13.7% | -- | 6.9% | 11.8% | 14.7% | 4.9% |
| EPC | Denmark | 233 | 50.6% | 27.9% | -- | 16.7% | 23.6% | 45.9% | 12.4% |
| EPC | EPO | 622 | 39.7% | 30.5% | -- | 20.7% | 23.8% | 24.4% | 14.0% |
| EPC | Finland | 308 | 23.4% | 15.3% | -- | 10.4% | 11.4% | 18.5% | 6.5% |
| EPC | France | 2752 | 30.2% | 27.0% | -- | 20.6% | 21.7% | 21.4% | 15.2% |
| EPC | Germany | 8190 | 20.9% | 18.8% | -- | 14.0% | 15.0% | 12.3% | 10.2% |
| EPC | Greece | 92 | 6.5% | 4.3% | -- | 1.1% | 3.3% | 5.4% | 0.0% |
| EPC | Ireland | 451 | 4.9% | 3.1% | -- | 2.0% | 2.4% | 4.0% | 1.3% |
| EPC | Italy | 2410 | 14.5% | 12.7% | -- | 8.6% | 10.2% | 8.4% | 6.1% |
| EPC | Luxem. | 11 | 63.6% | 63.6% | -- | 54.5% | 54.5% | 45.5% | 45.5% |
| EPC | Monaco | 4 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 449 | 35.0% | 30.7% | -- | 20.9% | 26.1% | 24.5% | 16.3% |
| EPC | Portugal | 85 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 1704 | 2.6% | 1.9% | -- | 0.9% | 1.5% | 1.6% | 0.5% |
| EPC | Sweden | 436 | 57.6% | 38.5% | -- | 28.2% | 32.6% | 45.4% | 22.2% |
| EPC | Switzerl. | 495 | 46.9% | 42.2% | -- | 31.5% | 31.3% | 29.7% | 20.6% |
| EPC | Turkey | 18 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 2140 | 50.6% | 37.7% | -- | 29.3% | 28.9% | 39.7% | 20.6% |
| <i>Subtotal for EPC</i> | | 20806 | 25.3% | 21.1% | -- | 15.5% | 16.7% | 17.1% | 11.2% |
| Japan | Jpn | 24125 | 12.1% | 11.4% | 8.9% | -- | 9.4% | 5.8% | 6.8% |
| US | USA | 15165 | 32.1% | 24.7% | 23.5% | 18.4% | -- | 27.3% | 17.3% |
| Other | Argen | 23 | 39.1% | 39.1% | 26.1% | 21.7% | 21.7% | 30.4% | 13.0% |
| Other | Austral | 1051 | 20.6% | 20.6% | 10.8% | 6.5% | 10.4% | 15.9% | 3.1% |
| Other | Brazil | 1484 | 0.7% | 0.7% | 0.6% | 0.3% | 0.5% | 0.7% | 0.1% |
| Other | Bulgaria | 186 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 671 | 40.2% | 40.2% | 16.2% | 8.9% | 34.3% | 36.8% | 5.7% |
| Other | China | 5561 | 0.3% | 0.3% | 0.2% | 0.1% | 0.2% | 0.3% | 0.0% |
| Other | Hungary | 414 | 9.9% | 9.9% | 8.9% | 3.4% | 3.9% | 9.4% | 2.2% |
| Other | India | 183 | 4.4% | 4.4% | 3.8% | 2.2% | 3.3% | 4.4% | 2.2% |
| Other | Israel | 139 | 56.8% | 56.8% | 36.7% | 23.0% | 33.8% | 30.9% | 18.0% |
| Other | Korea | 1913 | 3.6% | 3.6% | 1.9% | 2.0% | 1.6% | 2.5% | 0.8% |
| Other | Malay | 1 | 100.0% | 100.0% | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% |
| Other | Mexico | 40 | 7.5% | 7.5% | 0.0% | 0.0% | 5.0% | 5.0% | 0.0% |
| Other | NewZeal | 118 | 22.0% | 22.0% | 18.6% | 11.0% | 12.7% | 17.8% | 6.8% |
| Other | Norway | 134 | 26.1% | 26.1% | 23.1% | 8.2% | 11.2% | 23.9% | 5.2% |
| Other | Philipp | 114 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 266 | 1.5% | 1.5% | 1.1% | 0.4% | 0.8% | 0.8% | 0.4% |
| Other | Romania | 260 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 9513 | 0.6% | 0.6% | 0.5% | 0.3% | 0.2% | 0.6% | 0.1% |
| Other | SouthAfr | 492 | 5.3% | 5.3% | 5.1% | 1.4% | 4.1% | 5.1% | 1.0% |
| Other | Singapore | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| <i>Subtotal for Other</i> | | 22564 | 4.7% | 4.7% | 2.3% | 1.3% | 2.3% | 3.2% | 0.7% |
| <i>Total</i> | | 82660 | | | | | | | |

YEAR: 1989

2. IPC = B

Performing Operations

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 359 | 36.5% | 28.7% | -- | 18.1% | 24.2% | 26.5% | 13.6% |
| EPC | Belgium | 146 | 26.7% | 19.9% | -- | 14.4% | 15.1% | 20.5% | 9.6% |
| EPC | Denmark | 178 | 46.1% | 27.0% | -- | 19.7% | 24.7% | 41.0% | 17.4% |
| EPC | EPO | 704 | 38.2% | 30.7% | -- | 18.0% | 25.0% | 18.2% | 12.4% |
| EPC | Finland | 564 | 28.0% | 16.3% | -- | 10.1% | 13.5% | 24.6% | 7.3% |
| EPC | France | 3041 | 30.1% | 27.3% | -- | 19.3% | 23.6% | 18.8% | 15.6% |
| EPC | Germany | 14003 | 25.3% | 23.4% | -- | 17.2% | 19.2% | 11.5% | 13.0% |
| EPC | Greece | 53 | 7.5% | 3.8% | -- | 1.9% | 1.9% | 3.8% | 0.0% |
| EPC | Ireland | 219 | 7.3% | 4.6% | -- | 2.3% | 3.2% | 5.0% | 0.9% |
| EPC | Italy | 2821 | 16.2% | 13.5% | -- | 7.9% | 11.4% | 9.0% | 5.7% |
| EPC | Luxem. | 10 | 10.0% | 10.0% | -- | 10.0% | 10.0% | 0.0% | 10.0% |
| EPC | Monaco | 5 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 495 | 39.4% | 33.1% | -- | 23.6% | 26.5% | 26.1% | 17.0% |
| EPC | Portugal | 68 | 1.5% | 0.0% | -- | 0.0% | 0.0% | 1.5% | 0.0% |
| EPC | Spain | 1509 | 4.6% | 3.2% | -- | 2.3% | 2.0% | 3.0% | 1.1% |
| EPC | Sweden | 619 | 55.1% | 36.8% | -- | 26.0% | 31.5% | 41.7% | 20.7% |
| EPC | Switzerl. | 667 | 51.4% | 46.8% | -- | 38.8% | 39.4% | 30.1% | 31.5% |
| EPC | Turkey | 19 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 2419 | 44.9% | 34.4% | -- | 22.7% | 26.6% | 31.1% | 15.0% |
| <i>Subtotal for EPC</i> | | 27899 | 27.5% | 23.6% | -- | 16.7% | 19.4% | 15.4% | 12.5% |
| Japan | Jpn | 65546 | 12.1% | 11.7% | 8.8% | -- | 10.4% | 4.2% | 7.5% |
| US | USA | 16746 | 31.7% | 24.3% | 22.4% | 17.5% | -- | 24.5% | 15.7% |
| Other | Argen | 28 | 25.0% | 25.0% | 17.9% | 3.6% | 10.7% | 21.4% | 3.6% |
| Other | Austral | 1049 | 20.0% | 20.0% | 11.5% | 5.7% | 11.5% | 16.8% | 3.1% |
| Other | Brazil | 1447 | 1.1% | 1.1% | 0.6% | 0.1% | 0.6% | 1.0% | 0.0% |
| Other | Bulgaria | 211 | 100.0% | 100.0% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| Other | Canada | 880 | 40.7% | 40.7% | 21.4% | 11.6% | 33.7% | 37.7% | 8.7% |
| Other | China | 5179 | 0.2% | 0.2% | 0.1% | 0.0% | 0.1% | 0.1% | 0.0% |
| Other | Hungary | 246 | 10.6% | 10.6% | 7.7% | 2.4% | 3.3% | 8.9% | 1.2% |
| Other | India | 347 | 2.3% | 2.3% | 2.3% | 1.4% | 2.3% | 2.3% | 1.4% |
| Other | Israel | 97 | 50.5% | 50.5% | 32.0% | 19.6% | 37.1% | 35.1% | 15.5% |
| Other | Korea | 2043 | 3.2% | 3.2% | 1.1% | 1.0% | 1.5% | 1.3% | 0.4% |
| Other | Malay | 1 | 100.0% | 100.0% | 100.0% | 0.0% | 100.0% | 100.0% | 0.0% |
| Other | Mexico | 65 | 4.6% | 4.6% | 4.6% | 1.5% | 1.5% | 4.6% | 1.5% |
| Other | NewZeal | 118 | 22.9% | 22.9% | 17.8% | 10.2% | 9.3% | 22.9% | 1.7% |
| Other | Norway | 172 | 27.3% | 27.3% | 23.3% | 13.4% | 16.9% | 24.4% | 11.0% |
| Other | Philipp | 67 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 889 | 0.3% | 0.3% | 0.3% | 0.0% | 0.1% | 0.3% | 0.0% |
| Other | Romania | 798 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 18579 | 0.3% | 0.3% | 0.3% | 0.2% | 0.1% | 0.3% | 0.1% |
| Other | SouthAfr | 668 | 8.8% | 8.8% | 7.8% | 2.2% | 4.0% | 8.4% | 1.6% |
| Other | Singapore | 3 | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| <i>Subtotal for Other</i> | | 32887 | 3.5% | 3.5% | 1.8% | 0.9% | 1.8% | 2.5% | 0.6% |
| <i>Total</i> | | 143078 | | | | | | | |

YEAR: 1989

3. IPC = C

Chemistry & Metallurgy

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 172 | 52.3% | 43.0% | -- | 32.0% | 34.9% | 42.4% | 23.8% |
| EPC | Belgium | 83 | 51.8% | 44.6% | -- | 38.6% | 32.5% | 38.6% | 26.5% |
| EPC | Denmark | 179 | 57.5% | 46.9% | -- | 40.8% | 30.2% | 45.8% | 24.0% |
| EPC | EPO | 640 | 49.7% | 32.5% | -- | 28.1% | 20.9% | 40.3% | 16.6% |
| EPC | Finland | 193 | 36.3% | 30.1% | -- | 23.3% | 21.2% | 28.0% | 14.5% |
| EPC | France | 827 | 66.0% | 60.8% | -- | 52.5% | 49.1% | 48.5% | 40.7% |
| EPC | Germany | 3172 | 60.0% | 57.5% | -- | 52.1% | 43.0% | 32.3% | 37.6% |
| EPC | Greece | 18 | 5.6% | 0.0% | -- | 0.0% | 0.0% | 5.6% | 0.0% |
| EPC | Ireland | 892 | 1.7% | 1.1% | -- | 1.0% | 0.9% | 1.2% | 0.8% |
| EPC | Italy | 600 | 40.5% | 36.7% | -- | 30.0% | 28.5% | 31.5% | 21.8% |
| EPC | Luxem. | 18 | 66.7% | 61.1% | -- | 55.6% | 50.0% | 44.4% | 44.4% |
| EPC | Monaco | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 172 | 77.3% | 69.8% | -- | 59.3% | 50.6% | 57.0% | 40.1% |
| EPC | Portugal | 37 | 5.4% | 5.4% | -- | 0.0% | 5.4% | 2.7% | 0.0% |
| EPC | Spain | 225 | 10.2% | 9.3% | -- | 7.1% | 6.7% | 6.2% | 4.4% |
| EPC | Sweden | 131 | 73.3% | 52.7% | -- | 46.6% | 41.2% | 64.1% | 35.1% |
| EPC | Switzerl. | 406 | 82.5% | 79.6% | -- | 75.6% | 63.3% | 61.1% | 59.4% |
| EPC | Turkey | 19 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1614 | 80.2% | 69.2% | -- | 62.6% | 49.4% | 69.0% | 42.8% |
| <i>Subtotal for EPC</i> | | 9400 | 55.8% | 50.0% | -- | 44.3% | 37.1% | 39.3% | 31.6% |
| Japan | Jpn | 33884 | 16.0% | 15.5% | 13.3% | -- | 13.2% | 8.1% | 11.0% |
| US | USA | 12196 | 44.9% | 38.5% | 36.8% | 32.9% | -- | 38.5% | 31.2% |
| Other | Argen | 6 | 33.3% | 33.3% | 33.3% | 16.7% | 16.7% | 16.7% | 0.0% |
| Other | Austral | 442 | 32.1% | 32.1% | 25.1% | 12.9% | 20.8% | 29.2% | 9.5% |
| Other | Brazil | 213 | 2.3% | 2.3% | 1.9% | 1.4% | 1.4% | 2.3% | 0.9% |
| Other | Bulgaria | 354 | 100.0% | 100.0% | 0.6% | 0.3% | 0.0% | 0.3% | 0.0% |
| Other | Canada | 477 | 51.8% | 51.8% | 37.7% | 28.3% | 43.4% | 48.8% | 23.1% |
| Other | China | 1490 | 1.1% | 1.1% | 0.7% | 0.4% | 0.7% | 1.1% | 0.2% |
| Other | Hungary | 491 | 16.9% | 16.9% | 15.9% | 11.2% | 11.2% | 16.1% | 8.6% |
| Other | India | 554 | 4.5% | 4.5% | 4.2% | 3.1% | 2.5% | 4.3% | 2.3% |
| Other | Israel | 84 | 42.9% | 42.9% | 38.1% | 25.0% | 28.6% | 34.5% | 16.7% |
| Other | Korea | 885 | 6.9% | 6.9% | 3.6% | 5.2% | 3.8% | 6.2% | 2.3% |
| Other | Malay | 1 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 86 | 5.8% | 5.8% | 4.7% | 3.5% | 4.7% | 5.8% | 3.5% |
| Other | NewZeal | 84 | 10.7% | 10.7% | 8.3% | 8.3% | 6.0% | 9.5% | 4.8% |
| Other | Norway | 169 | 14.2% | 14.2% | 12.4% | 5.3% | 8.9% | 13.6% | 4.1% |
| Other | Philipp | 32 | 6.2% | 6.2% | 3.1% | 0.0% | 3.1% | 6.2% | 0.0% |
| Other | Poland | 884 | 0.7% | 0.7% | 0.2% | 0.0% | 0.3% | 0.6% | 0.0% |
| Other | Romania | 669 | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.0% |
| Other | Russia | 7119 | 0.5% | 0.5% | 0.4% | 0.3% | 0.1% | 0.4% | 0.1% |
| Other | SouthAfr | 184 | 13.0% | 13.0% | 11.4% | 6.0% | 8.2% | 12.0% | 6.0% |
| Other | Singapore | 1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| <i>Subtotal for Other</i> | | 14225 | 7.6% | 7.6% | 4.0% | 2.8% | 3.5% | 4.7% | 2.0% |
| <i>Total</i> | | 69705 | | | | | | | |

YEAR: 1989

4. IPC = D

Textiles & Paper

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|--------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | | | | | | <u>Families</u> |
| EPC | Austria | 38 | 63.2% | 47.4% | -- | 34.2% | 34.2% | 42.1% | 21.1% |
| EPC | Belgium | 35 | 60.0% | 60.0% | -- | 48.6% | 54.3% | 2.9% | 42.9% |
| EPC | Denmark | 20 | 45.0% | 30.0% | -- | 20.0% | 15.0% | 40.0% | 5.0% |
| EPC | EPO | 70 | 55.7% | 35.7% | -- | 25.7% | 28.6% | 42.9% | 18.6% |
| EPC | Finland | 168 | 50.0% | 42.3% | -- | 22.6% | 33.3% | 46.4% | 13.7% |
| EPC | France | 127 | 42.5% | 33.9% | -- | 22.8% | 26.8% | 26.0% | 15.7% |
| EPC | Germany | 799 | 43.3% | 41.9% | -- | 32.4% | 32.0% | 15.6% | 22.5% |
| EPC | Greece | 3 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 37 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Italy | 399 | 19.5% | 19.0% | -- | 14.3% | 14.5% | 9.3% | 9.8% |
| EPC | Luxem. | 1 | 100.0% | 0.0% | -- | 0.0% | 0.0% | 100.0% | 0.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 14 | 42.9% | 28.6% | -- | 28.6% | 28.6% | 35.7% | 28.6% |
| EPC | Portugal | 12 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 105 | 3.8% | 3.8% | -- | 3.8% | 2.9% | 2.9% | 2.9% |
| EPC | Sweden | 54 | 79.6% | 42.6% | -- | 33.3% | 31.5% | 74.1% | 22.2% |
| EPC | Switzerl. | 186 | 68.3% | 67.2% | -- | 58.1% | 48.9% | 22.0% | 39.8% |
| EPC | Turkey | 2 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 163 | 62.0% | 48.5% | -- | 40.5% | 33.1% | 51.5% | 25.2% |
| <i>Subtotal for EPC</i> | | 2233 | 42.1% | 37.3% | -- | 28.4% | 28.1% | 22.5% | 19.4% |
| Japan | Jpn | 4637 | 11.1% | 10.3% | 8.5% | -- | 8.4% | 5.1% | 6.6% |
| US | USA | 826 | 41.0% | 34.1% | 31.6% | 25.4% | -- | 36.2% | 22.9% |
| Other | Argen | 2 | 50.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 40 | 27.5% | 27.5% | 20.0% | 5.0% | 7.5% | 20.0% | 5.0% |
| Other | Brazil | 76 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Bulgaria | 26 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 36 | 55.6% | 55.6% | 38.9% | 16.7% | 50.0% | 55.6% | 16.7% |
| Other | China | 484 | 0.2% | 0.2% | 0.2% | 0.0% | 0.0% | 0.2% | 0.0% |
| Other | Hungary | 15 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | India | 107 | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% |
| Other | Israel | 11 | 90.9% | 90.9% | 36.4% | 0.0% | 45.5% | 27.3% | 0.0% |
| Other | Korea | 376 | 3.5% | 3.5% | 1.1% | 2.1% | 0.8% | 2.1% | 0.5% |
| Other | Malay | 0 | | | | | | | |
| Other | Mexico | 6 | 16.7% | 16.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 11 | 36.4% | 36.4% | 27.3% | 18.2% | 9.1% | 18.2% | 0.0% |
| Other | Norway | 9 | 11.1% | 11.1% | 0.0% | 0.0% | 11.1% | 11.1% | 0.0% |
| Other | Philipp | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 89 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Romania | 118 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 1069 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | SouthAfr | 29 | 3.4% | 3.4% | 3.4% | 0.0% | 3.4% | 3.4% | 0.0% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 2506 | 3.6% | 3.6% | 1.4% | 0.8% | 1.3% | 1.8% | 0.4% |
| <i>Total</i> | | 10202 | | | | | | | |

YEAR: 1989

5. IPC = E

Fixed Constructions

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 144 | 25.0% | 14.6% | -- | 7.6% | 14.6% | 22.9% | 7.6% |
| EPC | Belgium | 57 | 10.5% | 7.0% | -- | 0.0% | 7.0% | 7.0% | 0.0% |
| EPC | Denmark | 66 | 43.9% | 15.2% | -- | 7.6% | 10.6% | 40.9% | 3.0% |
| EPC | EPO | 148 | 38.5% | 23.6% | -- | 12.2% | 18.9% | 29.1% | 7.4% |
| EPC | Finland | 256 | 18.4% | 8.6% | -- | 4.3% | 7.0% | 16.8% | 2.7% |
| EPC | France | 905 | 20.8% | 15.0% | -- | 7.6% | 13.1% | 15.9% | 5.7% |
| EPC | Germany | 2908 | 11.6% | 8.9% | -- | 4.4% | 7.9% | 7.5% | 3.5% |
| EPC | Greece | 17 | 5.9% | 5.9% | -- | 0.0% | 5.9% | 5.9% | 0.0% |
| EPC | Ireland | 64 | 12.5% | 4.7% | -- | 1.6% | 3.1% | 12.5% | 0.0% |
| EPC | Italy | 730 | 9.0% | 6.3% | -- | 3.6% | 5.2% | 6.0% | 2.5% |
| EPC | Luxem. | 7 | 28.6% | 28.6% | -- | 0.0% | 28.6% | 28.6% | 0.0% |
| EPC | Monaco | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 147 | 16.3% | 14.3% | -- | 8.2% | 10.2% | 9.5% | 4.1% |
| EPC | Portugal | 22 | 4.5% | 4.5% | -- | 4.5% | 0.0% | 4.5% | 0.0% |
| EPC | Spain | 601 | 3.0% | 2.7% | -- | 2.0% | 2.3% | 1.7% | 1.7% |
| EPC | Sweden | 224 | 48.7% | 21.9% | -- | 12.1% | 18.7% | 42.4% | 8.9% |
| EPC | Switzerl. | 183 | 23.5% | 21.9% | -- | 10.4% | 19.7% | 18.0% | 8.2% |
| EPC | Turkey | 5 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 858 | 29.5% | 18.9% | -- | 5.2% | 17.1% | 23.0% | 3.5% |
| <i>Subtotal for EPC</i> | | 7344 | 16.7% | 11.3% | -- | 5.3% | 9.9% | 12.5% | 3.9% |
| Japan | Jpn | 8590 | 4.4% | 4.1% | 2.8% | -- | 3.6% | 2.4% | 2.4% |
| US | USA | 2737 | 29.6% | 17.3% | 16.7% | 6.4% | -- | 26.3% | 5.8% |
| Other | Argen | 10 | 20.0% | 20.0% | 10.0% | 0.0% | 10.0% | 20.0% | 0.0% |
| Other | Austral | 520 | 13.3% | 13.3% | 8.3% | 3.7% | 7.3% | 11.5% | 1.3% |
| Other | Brazil | 396 | 0.5% | 0.5% | 0.5% | 0.0% | 0.3% | 0.5% | 0.0% |
| Other | Bulgaria | 31 | 100.0% | 100.0% | 3.2% | 0.0% | 0.0% | 3.2% | 0.0% |
| Other | Canada | 283 | 42.0% | 42.0% | 17.3% | 3.5% | 33.6% | 38.5% | 1.8% |
| Other | China | 1637 | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.0% |
| Other | Hungary | 190 | 3.7% | 3.7% | 3.2% | 0.5% | 0.5% | 3.7% | 0.0% |
| Other | India | 65 | 1.5% | 1.5% | 1.5% | 1.5% | 1.5% | 1.5% | 1.5% |
| Other | Israel | 27 | 33.3% | 33.3% | 29.6% | 14.8% | 18.5% | 29.6% | 14.8% |
| Other | Korea | 612 | 1.1% | 1.1% | 0.2% | 0.7% | 0.5% | 0.5% | 0.0% |
| Other | Malay | 0 | | | | | | | |
| Other | Mexico | 28 | 10.7% | 10.7% | 3.6% | 0.0% | 10.7% | 10.7% | 0.0% |
| Other | NewZeal | 46 | 13.0% | 13.0% | 13.0% | 8.7% | 6.5% | 10.9% | 2.2% |
| Other | Norway | 124 | 39.5% | 39.5% | 37.9% | 9.7% | 11.3% | 38.7% | 7.3% |
| Other | Philipp | 20 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 345 | 0.3% | 0.3% | 0.3% | 0.0% | 0.0% | 0.3% | 0.0% |
| Other | Romania | 133 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 6554 | 0.2% | 0.2% | 0.2% | 0.1% | 0.1% | 0.2% | 0.0% |
| Other | SouthAfr | 416 | 3.4% | 3.4% | 2.4% | 0.5% | 1.9% | 3.4% | 0.5% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 11437 | 2.9% | 2.9% | 1.7% | 0.6% | 1.6% | 2.4% | 0.3% |
| <i>Total</i> | | 30108 | | | | | | | |

YEAR: 1989

6. IPC = F

Mechanical Engineering

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 246 | 15.9% | 12.2% | -- | 8.5% | 10.6% | 7.3% | 6.9% |
| EPC | Belgium | 55 | 36.4% | 27.3% | -- | 12.7% | 25.5% | 29.1% | 10.9% |
| EPC | Denmark | 67 | 47.8% | 23.9% | -- | 11.9% | 23.9% | 40.3% | 11.9% |
| EPC | EPO | 225 | 36.9% | 26.2% | -- | 15.1% | 21.8% | 18.2% | 10.7% |
| EPC | Finland | 235 | 23.4% | 11.9% | -- | 8.5% | 10.2% | 18.7% | 6.8% |
| EPC | France | 1187 | 30.2% | 27.8% | -- | 17.5% | 25.0% | 16.8% | 14.7% |
| EPC | Germany | 4992 | 23.7% | 21.7% | -- | 14.7% | 17.8% | 8.5% | 10.9% |
| EPC | Greece | 34 | 2.9% | 0.0% | -- | 0.0% | 0.0% | 2.9% | 0.0% |
| EPC | Ireland | 67 | 13.4% | 4.5% | -- | 0.0% | 4.5% | 10.4% | 0.0% |
| EPC | Italy | 1098 | 13.7% | 10.6% | -- | 4.8% | 9.7% | 8.2% | 3.9% |
| EPC | Luxem. | 13 | 76.9% | 69.2% | -- | 23.1% | 61.5% | 53.8% | 15.4% |
| EPC | Monaco | 2 | 50.0% | 50.0% | -- | 50.0% | 50.0% | 50.0% | 50.0% |
| EPC | Netherl. | 134 | 31.3% | 26.1% | -- | 20.1% | 23.9% | 17.2% | 17.9% |
| EPC | Portugal | 40 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 619 | 4.4% | 4.0% | -- | 2.1% | 3.4% | 2.1% | 1.5% |
| EPC | Sweden | 313 | 58.8% | 39.3% | -- | 27.8% | 33.9% | 41.2% | 22.4% |
| EPC | Switzerl. | 215 | 44.2% | 37.2% | -- | 31.6% | 29.8% | 27.9% | 24.2% |
| EPC | Turkey | 15 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1097 | 44.0% | 34.7% | -- | 20.5% | 29.2% | 25.5% | 14.9% |
| <i>Subtotal for EPC</i> | | 10654 | 26.1% | 22.0% | -- | 14.2% | 18.5% | 12.9% | 10.8% |
| Japan | Jpn | 23230 | 12.4% | 11.5% | 7.5% | -- | 10.7% | 4.6% | 6.7% |
| US | USA | 6051 | 33.3% | 25.1% | 23.2% | 17.4% | -- | 25.4% | 15.5% |
| Other | Argen | 30 | 20.0% | 20.0% | 10.0% | 0.0% | 10.0% | 16.7% | 0.0% |
| Other | Austral | 489 | 25.2% | 25.2% | 15.1% | 9.6% | 15.5% | 22.3% | 5.7% |
| Other | Brazil | 481 | 3.5% | 3.5% | 2.5% | 2.5% | 2.3% | 3.5% | 0.8% |
| Other | Bulgaria | 88 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 268 | 43.3% | 43.3% | 19.4% | 9.3% | 37.3% | 39.9% | 7.1% |
| Other | China | 3638 | 0.2% | 0.2% | 0.2% | 0.1% | 0.2% | 0.2% | 0.1% |
| Other | Hungary | 196 | 7.7% | 7.7% | 7.1% | 1.5% | 2.6% | 7.1% | 1.5% |
| Other | India | 196 | 5.1% | 5.1% | 4.6% | 3.1% | 4.1% | 4.6% | 3.1% |
| Other | Israel | 34 | 55.9% | 55.9% | 35.3% | 11.8% | 44.1% | 52.9% | 11.8% |
| Other | Korea | 1054 | 4.8% | 4.8% | 2.1% | 2.1% | 2.7% | 2.8% | 0.5% |
| Other | Malay | 1 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 29 | 6.9% | 6.9% | 0.0% | 0.0% | 3.4% | 3.4% | 0.0% |
| Other | NewZeal | 35 | 8.6% | 8.6% | 5.7% | 2.9% | 0.0% | 5.7% | 0.0% |
| Other | Norway | 73 | 34.2% | 34.2% | 34.2% | 11.0% | 17.8% | 34.2% | 11.0% |
| Other | Philipp | 48 | 2.1% | 2.1% | 0.0% | 0.0% | 2.1% | 2.1% | 0.0% |
| Other | Poland | 464 | 0.9% | 0.9% | 0.9% | 0.2% | 0.2% | 0.9% | 0.2% |
| Other | Romania | 239 | 0.4% | 0.4% | 0.4% | 0.0% | 0.4% | 0.4% | 0.0% |
| Other | Russia | 7425 | 0.3% | 0.3% | 0.3% | 0.2% | 0.1% | 0.3% | 0.1% |
| Other | SouthAfr | 290 | 11.4% | 11.4% | 9.0% | 1.7% | 6.9% | 10.3% | 0.3% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 15078 | 3.6% | 3.6% | 1.9% | 1.0% | 2.0% | 2.7% | 0.6% |
| <i>Total</i> | | 55013 | | | | | | | |

YEAR: 1989

7. IPC = G

Physics

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 130 | 40.8% | 36.9% | -- | 26.2% | 30.8% | 16.9% | 20.0% |
| EPC | Belgium | 41 | 24.4% | 14.6% | -- | 9.8% | 7.3% | 9.8% | 2.4% |
| EPC | Denmark | 62 | 51.6% | 35.5% | -- | 27.4% | 21.0% | 33.9% | 12.9% |
| EPC | EPO | 690 | 43.3% | 39.0% | -- | 29.0% | 32.0% | 12.2% | 22.0% |
| EPC | Finland | 193 | 31.1% | 24.4% | -- | 11.4% | 21.8% | 19.7% | 8.8% |
| EPC | France | 1454 | 41.3% | 38.5% | -- | 26.8% | 32.9% | 19.7% | 21.2% |
| EPC | Germany | 3686 | 25.2% | 23.1% | -- | 16.5% | 19.0% | 8.8% | 12.4% |
| EPC | Greece | 17 | 5.9% | 5.9% | -- | 0.0% | 5.9% | 0.0% | 0.0% |
| EPC | Ireland | 139 | 10.8% | 5.8% | -- | 2.2% | 4.3% | 10.1% | 0.7% |
| EPC | Italy | 689 | 22.6% | 19.0% | -- | 12.0% | 16.4% | 11.8% | 9.4% |
| EPC | Luxem. | 11 | 36.4% | 36.4% | -- | 36.4% | 18.2% | 27.3% | 18.2% |
| EPC | Monaco | 3 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 295 | 61.0% | 59.3% | -- | 53.9% | 51.2% | 32.2% | 45.8% |
| EPC | Portugal | 14 | 7.1% | 0.0% | -- | 0.0% | 0.0% | 7.1% | 0.0% |
| EPC | Spain | 476 | 3.2% | 2.3% | -- | 1.1% | 2.1% | 1.9% | 0.8% |
| EPC | Sweden | 192 | 57.8% | 45.3% | -- | 39.6% | 35.4% | 37.0% | 29.7% |
| EPC | Switzerl. | 299 | 53.5% | 50.8% | -- | 39.8% | 43.1% | 27.1% | 32.1% |
| EPC | Turkey | 3 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1669 | 52.7% | 42.4% | -- | 31.3% | 34.5% | 30.0% | 23.1% |
| <i>Subtotal for EPC</i> | | 10063 | 34.9% | 30.6% | -- | 22.3% | 25.4% | 16.3% | 17.0% |
| Japan | Jpn | 88922 | 13.1% | 12.9% | 7.8% | -- | 11.8% | 3.4% | 6.7% |
| US | USA | 13593 | 37.5% | 33.2% | 30.2% | 27.3% | -- | 22.3% | 24.3% |
| Other | Argen | 5 | 80.0% | 80.0% | 40.0% | 40.0% | 40.0% | 60.0% | 20.0% |
| Other | Austral | 428 | 14.5% | 14.5% | 7.9% | 4.2% | 9.8% | 11.7% | 2.8% |
| Other | Brazil | 451 | 0.4% | 0.4% | 0.0% | 0.0% | 0.4% | 0.4% | 0.0% |
| Other | Bulgaria | 199 | 100.0% | 100.0% | 0.5% | 0.0% | 0.0% | 0.5% | 0.0% |
| Other | Canada | 358 | 45.3% | 45.3% | 26.0% | 17.3% | 37.2% | 42.7% | 12.6% |
| Other | China | 2589 | 0.3% | 0.3% | 0.2% | 0.1% | 0.2% | 0.3% | 0.0% |
| Other | Hungary | 199 | 5.5% | 5.5% | 5.0% | 2.5% | 2.0% | 5.5% | 1.5% |
| Other | India | 111 | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% |
| Other | Israel | 84 | 67.9% | 67.9% | 51.2% | 15.5% | 53.6% | 47.6% | 11.9% |
| Other | Korea | 2417 | 7.4% | 7.4% | 3.8% | 4.8% | 5.0% | 5.4% | 2.3% |
| Other | Malay | 1 | 100.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 13 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 38 | 10.5% | 10.5% | 5.3% | 2.6% | 5.3% | 7.9% | 2.6% |
| Other | Norway | 60 | 35.0% | 35.0% | 33.3% | 16.7% | 28.3% | 35.0% | 13.3% |
| Other | Philipp | 12 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 480 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Romania | 381 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 12880 | 0.2% | 0.2% | 0.2% | 0.1% | 0.0% | 0.2% | 0.0% |
| Other | SouthAfr | 122 | 13.9% | 13.9% | 12.3% | 0.8% | 6.6% | 12.3% | 0.8% |
| Other | Singapore | 1 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| <i>Subtotal for Other</i> | | 20829 | 3.6% | 3.6% | 1.7% | 1.2% | 1.8% | 2.2% | 0.7% |
| <i>Total</i> | | 133407 | | | | | | | |

YEAR: 1989

8. IPC = H

Electricity

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|--------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | | | | | | <u>Families</u> |
| EPC | Austria | 97 | 36.1% | 24.7% | -- | 18.6% | 16.5% | 22.7% | 10.3% |
| EPC | Belgium | 16 | 18.7% | 12.5% | -- | 12.5% | 0.0% | 18.7% | 0.0% |
| EPC | Denmark | 37 | 37.8% | 27.0% | -- | 18.9% | 27.0% | 21.6% | 18.9% |
| EPC | EPO | 577 | 47.0% | 42.6% | -- | 32.1% | 35.9% | 16.8% | 25.3% |
| EPC | Finland | 159 | 45.9% | 34.0% | -- | 11.3% | 30.2% | 22.6% | 7.5% |
| EPC | France | 1213 | 45.6% | 42.0% | -- | 31.1% | 37.7% | 21.0% | 26.8% |
| EPC | Germany | 3284 | 24.4% | 20.9% | -- | 14.5% | 16.4% | 11.4% | 10.0% |
| EPC | Greece | 12 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 86 | 3.5% | 0.0% | -- | 0.0% | 0.0% | 3.5% | 0.0% |
| EPC | Italy | 602 | 30.7% | 25.4% | -- | 15.4% | 22.8% | 13.8% | 12.8% |
| EPC | Luxem. | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 336 | 80.7% | 76.5% | -- | 71.4% | 62.8% | 48.5% | 57.7% |
| EPC | Portugal | 24 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 291 | 3.4% | 2.4% | -- | 0.3% | 2.4% | 2.4% | 0.3% |
| EPC | Sweden | 171 | 62.0% | 45.0% | -- | 29.8% | 41.5% | 51.5% | 26.3% |
| EPC | Switzerl. | 190 | 53.2% | 46.3% | -- | 36.3% | 37.4% | 21.6% | 27.4% |
| EPC | Turkey | 6 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1182 | 51.5% | 44.0% | -- | 33.8% | 36.3% | 28.9% | 26.1% |
| <i>Subtotal for EPC</i> | | 8285 | 36.7% | 31.9% | -- | 23.4% | 26.6% | 18.4% | 18.2% |
| Japan | Jpn | 67252 | 10.0% | 9.7% | 6.3% | -- | 9.0% | 3.8% | 5.5% |
| US | USA | 9989 | 37.4% | 30.8% | 28.0% | 25.5% | -- | 23.2% | 22.6% |
| Other | Argen | 4 | 50.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 304 | 18.1% | 18.1% | 12.8% | 6.3% | 10.9% | 15.1% | 4.3% |
| Other | Brazil | 346 | 1.4% | 1.4% | 1.2% | 1.2% | 1.2% | 1.4% | 0.9% |
| Other | Bulgaria | 131 | 100.0% | 100.0% | 1.5% | 1.5% | 0.0% | 0.0% | 0.0% |
| Other | Canada | 355 | 29.9% | 29.9% | 13.8% | 9.3% | 22.8% | 26.8% | 5.6% |
| Other | China | 2063 | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.1% | 0.0% |
| Other | Hungary | 155 | 7.7% | 7.7% | 7.7% | 3.9% | 3.9% | 7.7% | 3.9% |
| Other | India | 177 | 5.1% | 5.1% | 3.4% | 3.4% | 4.0% | 5.1% | 2.8% |
| Other | Israel | 34 | 76.5% | 76.5% | 47.1% | 26.5% | 64.7% | 52.9% | 23.5% |
| Other | Korea | 3421 | 8.1% | 8.1% | 4.0% | 4.7% | 5.3% | 6.0% | 1.9% |
| Other | Malay | 2 | 100.0% | 100.0% | 100.0% | 100.0% | 50.0% | 100.0% | 50.0% |
| Other | Mexico | 16 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 39 | 20.5% | 20.5% | 20.5% | 10.3% | 12.8% | 17.9% | 7.7% |
| Other | Norway | 65 | 35.4% | 35.4% | 33.8% | 15.4% | 16.9% | 35.4% | 9.2% |
| Other | Philipp | 16 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 358 | 0.3% | 0.3% | 0.3% | 0.0% | 0.0% | 0.3% | 0.0% |
| Other | Romania | 254 | 0.4% | 0.4% | 0.4% | 0.0% | 0.0% | 0.4% | 0.0% |
| Other | Russia | 6604 | 0.2% | 0.2% | 0.2% | 0.1% | 0.0% | 0.2% | 0.0% |
| Other | SouthAfr | 134 | 9.0% | 9.0% | 7.5% | 1.5% | 3.0% | 6.7% | 0.7% |
| Other | Singapore | 5 | 80.0% | 80.0% | 80.0% | 20.0% | 0.0% | 80.0% | 0.0% |
| <i>Subtotal for Other</i> | | 14483 | 4.8% | 4.8% | 2.2% | 1.9% | 2.5% | 3.1% | 0.9% |
| <i>Total</i> | | 100009 | | | | | | | |

YEAR: 1984

1. IPC = A

Human Necessities

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 317 | 24.9% | 20.5% | -- | 12.6% | 16.4% | 16.1% | 8.5% |
| EPC | Belgium | 414 | 7.2% | 6.8% | -- | 3.1% | 5.6% | 3.9% | 1.9% |
| EPC | Denmark | 181 | 39.8% | 26.5% | -- | 18.2% | 18.8% | 32.6% | 10.5% |
| EPC | EPO | 299 | 48.2% | 38.5% | -- | 16.7% | 31.8% | 25.4% | 10.0% |
| EPC | Finland | 202 | 19.8% | 9.9% | -- | 6.9% | 8.9% | 16.3% | 5.9% |
| EPC | France | 1884 | 16.6% | 14.6% | -- | 9.4% | 12.1% | 9.2% | 7.0% |
| EPC | Germany | 6282 | 14.8% | 12.8% | -- | 7.4% | 10.7% | 7.9% | 5.3% |
| EPC | Greece | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 263 | 1.9% | 1.5% | -- | 1.1% | 1.1% | 1.1% | 0.8% |
| EPC | Italy | 2889 | 10.9% | 9.0% | -- | 5.2% | 7.9% | 6.4% | 4.1% |
| EPC | Luxem. | 41 | 56.1% | 48.8% | -- | 43.9% | 46.3% | 51.2% | 41.5% |
| EPC | Monaco | 5 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 376 | 26.9% | 25.3% | -- | 13.0% | 20.2% | 17.6% | 8.0% |
| EPC | Portugal | 55 | 1.8% | 1.8% | -- | 1.8% | 1.8% | 1.8% | 1.8% |
| EPC | Spain | 1961 | 1.7% | 1.7% | -- | 0.8% | 1.4% | 0.5% | 0.5% |
| EPC | Sweden | 434 | 43.8% | 33.6% | -- | 21.2% | 28.8% | 33.2% | 16.4% |
| EPC | Switzerl. | 431 | 45.7% | 40.6% | -- | 28.3% | 33.6% | 29.9% | 21.3% |
| EPC | Turkey | 22 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1667 | 35.5% | 27.9% | -- | 17.5% | 21.0% | 24.8% | 10.6% |
| <i>Subtotal for EPC</i> | | 17725 | 17.4% | 14.5% | -- | 8.7% | 11.8% | 10.6% | 6.1% |
| Japan | Jpn | 19772 | 12.2% | 11.4% | 9.2% | -- | 9.2% | 5.5% | 7.1% |
| US | USA | 7995 | 33.3% | 27.7% | 26.3% | 17.8% | -- | 25.8% | 16.4% |
| Other | Argen | 91 | 4.4% | 4.4% | 2.2% | 1.1% | 1.1% | 2.2% | 1.1% |
| Other | Austral | 729 | 29.6% | 29.6% | 23.3% | 6.6% | 15.1% | 23.6% | 4.3% |
| Other | Brazil | 1121 | 1.0% | 1.0% | 0.2% | 0.1% | 0.8% | 1.0% | 0.0% |
| Other | Bulgaria | 244 | 100.0% | 100.0% | 1.2% | 0.8% | 0.8% | 1.2% | 0.4% |
| Other | Canada | 508 | 16.1% | 16.1% | 5.7% | 2.8% | 12.2% | 14.8% | 1.4% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 441 | 16.6% | 16.6% | 14.3% | 6.3% | 5.4% | 14.5% | 3.4% |
| Other | India | 92 | 1.1% | 1.1% | 1.1% | 0.0% | 0.0% | 1.1% | 0.0% |
| Other | Israel | 91 | 47.3% | 47.3% | 28.6% | 14.3% | 30.8% | 38.5% | 6.6% |
| Other | Korea | 1751 | 1.4% | 1.4% | 0.5% | 0.3% | 0.7% | 1.1% | 0.0% |
| Other | Malay | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 58 | 1.7% | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 114 | 23.7% | 23.7% | 21.1% | 6.1% | 13.2% | 22.8% | 3.5% |
| Other | Norway | 115 | 28.7% | 28.7% | 25.2% | 6.1% | 15.7% | 26.1% | 5.2% |
| Other | Philipp | 118 | 0.8% | 0.8% | 0.0% | 0.0% | 0.8% | 0.8% | 0.0% |
| Other | Poland | 324 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Romania | 257 | 0.4% | 0.4% | 0.4% | 0.4% | 0.4% | 0.4% | 0.4% |
| Other | Russia | 5473 | 0.8% | 0.8% | 0.7% | 0.3% | 0.3% | 0.8% | 0.1% |
| Other | SouthAfr | 474 | 7.6% | 7.6% | 6.1% | 1.9% | 4.9% | 7.2% | 1.3% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 12003 | 7.0% | 7.0% | 3.6% | 1.3% | 2.7% | 4.3% | 0.7% |
| <i>Total</i> | | 57495 | | | | | | | |

YEAR: 1984

2. IPC = B

Performing Operations

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 344 | 29.9% | 24.4% | -- | 17.2% | 19.5% | 20.6% | 12.2% |
| EPC | Belgium | 393 | 7.9% | 5.9% | -- | 4.3% | 4.3% | 4.8% | 2.8% |
| EPC | Denmark | 148 | 31.8% | 17.6% | -- | 8.8% | 13.5% | 23.0% | 4.7% |
| EPC | EPO | 487 | 40.7% | 33.5% | -- | 13.8% | 28.5% | 15.4% | 8.8% |
| EPC | Finland | 423 | 30.3% | 19.6% | -- | 12.1% | 15.1% | 25.1% | 7.6% |
| EPC | France | 2532 | 22.7% | 19.9% | -- | 12.2% | 16.8% | 13.7% | 9.0% |
| EPC | Germany | 11857 | 21.6% | 20.0% | -- | 13.4% | 16.6% | 8.4% | 10.0% |
| EPC | Greece | 5 | 20.0% | 20.0% | -- | 20.0% | 0.0% | 20.0% | 0.0% |
| EPC | Ireland | 148 | 6.1% | 4.7% | -- | 1.4% | 4.7% | 3.4% | 1.4% |
| EPC | Italy | 2834 | 10.5% | 9.4% | -- | 4.8% | 8.3% | 5.2% | 3.7% |
| EPC | Luxem. | 33 | 39.4% | 36.4% | -- | 30.3% | 27.3% | 24.2% | 21.2% |
| EPC | Monaco | 4 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 405 | 31.1% | 28.1% | -- | 20.0% | 21.7% | 19.0% | 13.6% |
| EPC | Portugal | 73 | 2.7% | 2.7% | -- | 2.7% | 2.7% | 1.4% | 2.7% |
| EPC | Spain | 1794 | 2.0% | 1.5% | -- | 0.7% | 1.2% | 1.3% | 0.4% |
| EPC | Sweden | 781 | 44.6% | 33.0% | -- | 22.3% | 29.4% | 31.4% | 18.7% |
| EPC | Switzerl. | 571 | 47.6% | 42.4% | -- | 30.8% | 36.3% | 25.6% | 24.7% |
| EPC | Turkey | 32 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 2664 | 34.3% | 27.7% | -- | 16.3% | 22.5% | 24.0% | 11.2% |
| <i>Subtotal for EPC</i> | | 25528 | 22.3% | 19.4% | -- | 12.3% | 16.1% | 11.5% | 9.1% |
| Japan | Jpn | 58218 | 9.6% | 9.1% | 6.3% | -- | 8.2% | 3.2% | 5.3% |
| US | USA | 10749 | 36.2% | 29.7% | 27.4% | 20.9% | -- | 27.1% | 18.6% |
| Other | Argen | 67 | 1.5% | 1.5% | 1.5% | 0.0% | 1.5% | 0.0% | 0.0% |
| Other | Austral | 779 | 23.4% | 23.4% | 17.5% | 7.4% | 13.2% | 19.1% | 4.6% |
| Other | Brazil | 1180 | 0.8% | 0.8% | 0.8% | 0.2% | 0.3% | 0.8% | 0.2% |
| Other | Bulgaria | 333 | 100.0% | 100.0% | 3.3% | 2.4% | 0.9% | 2.7% | 0.6% |
| Other | Canada | 743 | 18.6% | 18.6% | 8.6% | 5.4% | 14.1% | 16.7% | 3.5% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 312 | 10.3% | 10.3% | 9.0% | 1.9% | 3.2% | 9.3% | 1.3% |
| Other | India | 165 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 80 | 35.0% | 35.0% | 22.5% | 10.0% | 26.2% | 26.2% | 8.7% |
| Other | Korea | 1459 | 1.1% | 1.1% | 0.7% | 0.4% | 0.7% | 0.9% | 0.2% |
| Other | Malay | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 68 | 5.9% | 5.9% | 2.9% | 1.5% | 4.4% | 4.4% | 1.5% |
| Other | NewZeal | 121 | 13.2% | 13.2% | 10.7% | 4.1% | 5.8% | 12.4% | 3.3% |
| Other | Norway | 165 | 25.5% | 25.5% | 23.6% | 8.5% | 12.1% | 24.2% | 6.7% |
| Other | Philipp | 67 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 1134 | 1.0% | 1.0% | 0.8% | 0.4% | 0.4% | 1.0% | 0.2% |
| Other | Romania | 474 | 0.6% | 0.6% | 0.2% | 0.0% | 0.0% | 0.2% | 0.0% |
| Other | Russia | 15961 | 0.7% | 0.7% | 0.6% | 0.1% | 0.1% | 0.6% | 0.0% |
| Other | SouthAfr | 586 | 10.6% | 10.6% | 8.2% | 1.5% | 5.5% | 9.9% | 0.9% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 23696 | 4.2% | 4.2% | 2.0% | 0.7% | 1.4% | 2.4% | 0.5% |
| <i>Total</i> | | 118191 | | | | | | | |

YEAR: 1984

3. IPC = C

Chemistry & Metallurgy

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|--------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | | | | | | <u>Families</u> |
| EPC | Austria | 234 | 29.9% | 23.5% | -- | 16.2% | 19.7% | 24.8% | 12.4% |
| EPC | Belgium | 136 | 16.2% | 12.5% | -- | 8.8% | 8.1% | 9.6% | 4.4% |
| EPC | Denmark | 127 | 23.6% | 16.5% | -- | 11.0% | 14.2% | 22.0% | 8.7% |
| EPC | EPO | 359 | 51.5% | 39.3% | -- | 16.7% | 30.9% | 21.7% | 8.4% |
| EPC | Finland | 170 | 24.1% | 18.8% | -- | 11.2% | 16.5% | 20.6% | 8.8% |
| EPC | France | 1000 | 60.5% | 54.4% | -- | 46.2% | 44.2% | 43.8% | 36.0% |
| EPC | Germany | 3700 | 57.2% | 53.1% | -- | 44.9% | 41.5% | 33.2% | 33.3% |
| EPC | Greece | 0 | | | -- | | | | |
| EPC | Ireland | 780 | 0.1% | 0.1% | -- | 0.1% | 0.1% | 0.0% | 0.1% |
| EPC | Italy | 569 | 29.2% | 27.2% | -- | 20.9% | 23.0% | 18.8% | 16.7% |
| EPC | Luxem. | 63 | 52.4% | 52.4% | -- | 47.6% | 44.4% | 42.9% | 39.7% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 196 | 65.3% | 61.2% | -- | 55.6% | 49.5% | 44.9% | 43.9% |
| EPC | Portugal | 43 | 7.0% | 7.0% | -- | 4.7% | 4.7% | 7.0% | 2.3% |
| EPC | Spain | 521 | 6.7% | 5.4% | -- | 2.9% | 4.0% | 5.4% | 1.5% |
| EPC | Sweden | 171 | 62.6% | 46.8% | -- | 37.4% | 36.3% | 43.9% | 26.9% |
| EPC | Switzerl. | 411 | 80.3% | 73.5% | -- | 65.2% | 60.6% | 59.6% | 52.3% |
| EPC | Turkey | 23 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1604 | 69.8% | 59.4% | -- | 48.4% | 43.4% | 52.5% | 32.4% |
| <i>Subtotal for EPC</i> | | 10107 | 49.6% | 44.2% | -- | 36.1% | 34.4% | 32.6% | 26.5% |
| Japan | Jpn | 26426 | 12.0% | 11.6% | 9.3% | -- | 10.0% | 4.8% | 7.7% |
| US | USA | 8562 | 49.5% | 44.5% | 42.2% | 35.0% | -- | 38.6% | 32.7% |
| Other | Argen | 8 | 12.5% | 12.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 246 | 40.2% | 40.2% | 32.9% | 15.9% | 16.7% | 33.3% | 11.8% |
| Other | Brazil | 277 | 5.1% | 5.1% | 4.3% | 2.2% | 2.5% | 5.1% | 0.7% |
| Other | Bulgaria | 446 | 100.0% | 100.0% | 1.3% | 0.9% | 0.4% | 1.3% | 0.4% |
| Other | Canada | 550 | 14.9% | 14.9% | 10.0% | 7.5% | 10.4% | 13.5% | 4.2% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 503 | 18.1% | 18.1% | 17.3% | 11.1% | 10.1% | 17.9% | 7.8% |
| Other | India | 278 | 0.7% | 0.7% | 0.4% | 0.0% | 0.0% | 0.4% | 0.0% |
| Other | Israel | 107 | 21.5% | 21.5% | 17.8% | 14.0% | 10.3% | 18.7% | 6.5% |
| Other | Korea | 566 | 3.7% | 3.7% | 1.8% | 2.5% | 1.1% | 3.2% | 0.0% |
| Other | Malay | 3 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 84 | 8.3% | 8.3% | 2.4% | 0.0% | 3.6% | 3.6% | 0.0% |
| Other | NewZeal | 71 | 8.5% | 8.5% | 8.5% | 4.2% | 4.2% | 7.0% | 1.4% |
| Other | Norway | 128 | 16.4% | 16.4% | 14.1% | 6.2% | 9.4% | 15.6% | 4.7% |
| Other | Philipp | 41 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 1143 | 1.4% | 1.4% | 1.3% | 0.3% | 0.4% | 1.4% | 0.3% |
| Other | Romania | 550 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 5089 | 1.0% | 1.0% | 0.8% | 0.2% | 0.2% | 0.8% | 0.1% |
| Other | SouthAfr | 160 | 12.5% | 12.5% | 8.8% | 3.8% | 7.5% | 11.9% | 1.9% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 10250 | 8.8% | 8.8% | 3.6% | 2.0% | 2.2% | 4.0% | 1.2% |
| <i>Total</i> | | 55345 | | | | | | | |

YEAR: 1984

4. IPC = D

Textiles & Paper

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|--------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | | | | | | <u>Families</u> |
| EPC | Austria | 43 | 27.9% | 27.9% | -- | 9.3% | 25.6% | 9.3% | 7.0% |
| EPC | Belgium | 57 | 8.8% | 8.8% | -- | 0.0% | 8.8% | 0.0% | 0.0% |
| EPC | Denmark | 12 | 25.0% | 16.7% | -- | 8.3% | 16.7% | 25.0% | 8.3% |
| EPC | EPO | 59 | 49.2% | 44.1% | -- | 23.7% | 37.3% | 22.0% | 16.9% |
| EPC | Finland | 99 | 41.4% | 36.4% | -- | 17.2% | 32.3% | 34.3% | 13.1% |
| EPC | France | 159 | 31.4% | 27.0% | -- | 21.4% | 20.8% | 18.2% | 15.1% |
| EPC | Germany | 865 | 34.9% | 33.3% | -- | 23.1% | 29.2% | 12.3% | 19.1% |
| EPC | Greece | 1 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Ireland | 10 | 10.0% | 10.0% | -- | 0.0% | 10.0% | 10.0% | 0.0% |
| EPC | Italy | 307 | 20.8% | 19.9% | -- | 14.7% | 15.0% | 7.8% | 9.8% |
| EPC | Luxem. | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 19 | 47.4% | 47.4% | -- | 31.6% | 47.4% | 31.6% | 31.6% |
| EPC | Portugal | 6 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 138 | 4.3% | 3.6% | -- | 2.2% | 3.6% | 0.7% | 2.2% |
| EPC | Sweden | 60 | 61.7% | 48.3% | -- | 41.7% | 38.3% | 53.3% | 31.7% |
| EPC | Switzerl. | 91 | 75.8% | 73.6% | -- | 59.3% | 65.9% | 48.4% | 51.6% |
| EPC | Turkey | 3 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 173 | 38.7% | 31.8% | -- | 17.9% | 28.9% | 22.0% | 15.0% |
| <i>Subtotal for EPC</i> | | 2104 | 33.2% | 30.5% | -- | 20.6% | 26.2% | 15.9% | 16.5% |
| Japan | Jpn | 4400 | 8.7% | 8.3% | 6.1% | -- | 7.3% | 3.1% | 5.1% |
| US | USA | 565 | 45.8% | 40.5% | 38.4% | 27.4% | -- | 35.8% | 25.3% |
| Other | Argen | 11 | 9.1% | 9.1% | 9.1% | 0.0% | 0.0% | 9.1% | 0.0% |
| Other | Austral | 27 | 37.0% | 37.0% | 33.3% | 25.9% | 14.8% | 37.0% | 11.1% |
| Other | Brazil | 69 | 1.4% | 1.4% | 1.4% | 0.0% | 0.0% | 1.4% | 0.0% |
| Other | Bulgaria | 52 | 100.0% | 100.0% | 1.9% | 0.0% | 0.0% | 1.9% | 0.0% |
| Other | Canada | 46 | 19.6% | 19.6% | 10.9% | 6.5% | 13.0% | 15.2% | 4.3% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 10 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | India | 34 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 3 | 33.3% | 33.3% | 33.3% | 33.3% | 0.0% | 33.3% | 0.0% |
| Other | Korea | 301 | 1.3% | 1.3% | 0.3% | 1.0% | 0.3% | 1.0% | 0.3% |
| Other | Malay | 0 | | | | | | | |
| Other | Mexico | 5 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 14 | 50.0% | 50.0% | 35.7% | 28.6% | 28.6% | 35.7% | 21.4% |
| Other | Norway | 8 | 12.5% | 12.5% | 12.5% | 0.0% | 0.0% | 12.5% | 0.0% |
| Other | Philipp | 6 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 96 | 5.2% | 5.2% | 5.2% | 1.0% | 0.0% | 5.2% | 0.0% |
| Other | Romania | 61 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 738 | 1.5% | 1.5% | 1.2% | 0.1% | 0.3% | 1.2% | 0.1% |
| Other | SouthAfr | 17 | 17.6% | 17.6% | 17.6% | 5.9% | 5.9% | 17.6% | 5.9% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 1498 | 7.0% | 7.0% | 2.8% | 1.4% | 1.2% | 3.1% | 0.7% |
| <i>Total</i> | | 8567 | | | | | | | |

YEAR: 1984

5. IPC = E

Fixed Constructions

 Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|--------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 247 | 17.4% | 14.6% | -- | 5.3% | 12.6% | 9.7% | 3.2% |
| EPC | Belgium | 190 | 3.2% | 1.1% | -- | 0.0% | 1.1% | 2.6% | 0.0% |
| EPC | Denmark | 59 | 35.6% | 15.3% | -- | 3.4% | 15.3% | 32.2% | 3.4% |
| EPC | EPO | 102 | 34.3% | 20.6% | -- | 10.8% | 17.6% | 23.5% | 7.8% |
| EPC | Finland | 171 | 22.2% | 7.6% | -- | 2.9% | 7.0% | 20.5% | 2.3% |
| EPC | France | 1036 | 14.7% | 11.6% | -- | 5.3% | 10.5% | 10.2% | 4.2% |
| EPC | Germany | 3809 | 9.6% | 7.6% | -- | 3.5% | 6.6% | 5.5% | 2.5% |
| EPC | Greece | 5 | 40.0% | 20.0% | -- | 0.0% | 20.0% | 20.0% | 0.0% |
| EPC | Ireland | 43 | 4.7% | 2.3% | -- | 0.0% | 2.3% | 2.3% | 0.0% |
| EPC | Italy | 749 | 5.7% | 4.3% | -- | 1.2% | 4.1% | 4.0% | 1.1% |
| EPC | Luxem. | 10 | 10.0% | 10.0% | -- | 10.0% | 10.0% | 10.0% | 10.0% |
| EPC | Monaco | 0 | | | -- | | | | |
| EPC | Netherl. | 172 | 10.5% | 8.7% | -- | 2.9% | 8.7% | 8.1% | 2.9% |
| EPC | Portugal | 26 | 3.8% | 3.8% | -- | 0.0% | 3.8% | 3.8% | 0.0% |
| EPC | Spain | 601 | 1.3% | 1.0% | -- | 0.2% | 0.8% | 0.8% | 0.0% |
| EPC | Sweden | 322 | 40.7% | 21.4% | -- | 10.6% | 19.3% | 36.0% | 8.4% |
| EPC | Switzerl. | 197 | 18.8% | 14.2% | -- | 7.1% | 12.7% | 10.2% | 5.6% |
| EPC | Turkey | 6 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 986 | 21.9% | 13.8% | -- | 4.1% | 12.6% | 17.5% | 2.8% |
| Subtotal for EPC | | 8731 | 12.9% | 9.0% | -- | 3.7% | 8.0% | 9.0% | 2.7% |
| Japan | Jpn | 6599 | 4.3% | 3.6% | 2.8% | -- | 3.0% | 2.0% | 2.1% |
| US | USA | 2080 | 31.2% | 20.1% | 19.4% | 6.8% | -- | 27.2% | 6.1% |
| Other | Argen | 23 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 390 | 23.6% | 23.6% | 18.7% | 4.4% | 13.3% | 21.0% | 3.3% |
| Other | Brazil | 332 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Bulgaria | 56 | 100.0% | 100.0% | 1.8% | 0.0% | 1.8% | 1.8% | 0.0% |
| Other | Canada | 262 | 20.2% | 20.2% | 5.7% | 2.7% | 15.3% | 18.3% | 1.1% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 247 | 6.1% | 6.1% | 4.5% | 1.2% | 1.6% | 5.3% | 0.0% |
| Other | India | 36 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 16 | 12.5% | 12.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Korea | 420 | 1.2% | 1.2% | 1.0% | 0.2% | 0.5% | 1.2% | 0.0% |
| Other | Malay | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 29 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 37 | 10.8% | 10.8% | 10.8% | 5.4% | 5.4% | 10.8% | 5.4% |
| Other | Norway | 113 | 31.9% | 31.9% | 27.4% | 6.2% | 11.5% | 30.1% | 3.5% |
| Other | Philipp | 26 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 437 | 1.8% | 1.8% | 1.8% | 0.0% | 0.0% | 1.8% | 0.0% |
| Other | Romania | 61 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 4851 | 0.4% | 0.4% | 0.4% | 0.1% | 0.1% | 0.4% | 0.1% |
| Other | SouthAfr | 419 | 6.4% | 6.4% | 5.0% | 0.7% | 2.6% | 6.0% | 0.2% |
| Other | Singapore | 0 | | | | | | | |
| Subtotal for Other | | 7757 | 4.1% | 4.1% | 2.4% | 0.6% | 1.7% | 3.1% | 0.3% |
| Total | | 25167 | | | | | | | |

YEAR: 1984

6. IPC = F

Mechanical Engineering

Secondary Filings as a Percentage of First Filings
(% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|--------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 235 | 22.6% | 17.4% | -- | 9.4% | 15.7% | 12.8% | 7.7% |
| EPC | Belgium | 224 | 4.5% | 2.7% | -- | 0.9% | 2.2% | 3.1% | 0.4% |
| EPC | Denmark | 114 | 41.2% | 23.7% | -- | 14.0% | 16.7% | 30.7% | 7.0% |
| EPC | EPO | 236 | 40.7% | 32.2% | -- | 11.4% | 29.2% | 16.1% | 8.5% |
| EPC | Finland | 182 | 25.3% | 14.8% | -- | 7.7% | 11.5% | 17.6% | 4.4% |
| EPC | France | 1559 | 26.4% | 24.1% | -- | 16.4% | 21.5% | 12.8% | 13.8% |
| EPC | Germany | 5935 | 22.5% | 20.7% | -- | 13.7% | 16.7% | 8.2% | 9.7% |
| EPC | Greece | 0 | | | -- | | | | |
| EPC | Ireland | 72 | 1.4% | 1.4% | -- | 0.0% | 1.4% | 1.4% | 0.0% |
| EPC | Italy | 1127 | 11.4% | 9.5% | -- | 4.8% | 7.3% | 5.5% | 2.6% |
| EPC | Luxem. | 16 | 37.5% | 31.2% | -- | 12.5% | 18.7% | 12.5% | 0.0% |
| EPC | Monaco | 6 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 153 | 36.6% | 35.9% | -- | 25.5% | 31.4% | 19.6% | 20.9% |
| EPC | Portugal | 42 | 2.4% | 2.4% | -- | 2.4% | 0.0% | 2.4% | 0.0% |
| EPC | Spain | 863 | 2.9% | 2.2% | -- | 1.3% | 1.5% | 1.4% | 0.6% |
| EPC | Sweden | 417 | 46.0% | 33.8% | -- | 22.5% | 29.3% | 31.2% | 18.0% |
| EPC | Switzerl. | 290 | 42.4% | 39.7% | -- | 30.7% | 31.7% | 21.0% | 22.8% |
| EPC | Turkey | 29 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1597 | 30.8% | 25.9% | -- | 14.8% | 22.5% | 18.1% | 11.4% |
| Subtotal for EPC | | 13097 | 23.3% | 20.4% | -- | 12.8% | 16.8% | 10.8% | 9.4% |
| Japan | Jpn | 24635 | 9.7% | 8.9% | 5.5% | -- | 8.1% | 3.5% | 4.7% |
| US | USA | 5028 | 36.1% | 30.0% | 27.7% | 21.3% | -- | 25.9% | 19.0% |
| Other | Argen | 39 | 7.7% | 7.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 365 | 27.4% | 27.4% | 22.2% | 11.0% | 13.4% | 20.8% | 7.9% |
| Other | Brazil | 538 | 0.9% | 0.9% | 0.9% | 0.0% | 0.6% | 0.9% | 0.0% |
| Other | Bulgaria | 101 | 100.0% | 100.0% | 3.0% | 0.0% | 1.0% | 3.0% | 0.0% |
| Other | Canada | 373 | 15.0% | 15.0% | 4.0% | 2.1% | 12.1% | 13.4% | 1.1% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 262 | 13.7% | 13.7% | 13.4% | 2.7% | 2.7% | 13.4% | 1.5% |
| Other | India | 111 | 0.9% | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 58 | 46.6% | 46.6% | 39.7% | 17.2% | 32.8% | 37.9% | 10.3% |
| Other | Korea | 792 | 1.9% | 1.9% | 1.0% | 0.8% | 0.9% | 1.1% | 0.3% |
| Other | Malay | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 34 | 5.9% | 5.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 58 | 19.0% | 19.0% | 13.8% | 0.0% | 12.1% | 17.2% | 0.0% |
| Other | Norway | 94 | 33.0% | 33.0% | 29.8% | 6.4% | 11.7% | 29.8% | 5.3% |
| Other | Philipp | 88 | 2.3% | 2.3% | 1.1% | 1.1% | 1.1% | 2.3% | 0.0% |
| Other | Poland | 552 | 1.4% | 1.4% | 1.3% | 0.2% | 0.2% | 1.4% | 0.0% |
| Other | Romania | 139 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 6013 | 1.1% | 1.1% | 0.9% | 0.0% | 0.6% | 0.9% | 0.0% |
| Other | SouthAfr | 283 | 9.5% | 9.5% | 8.5% | 2.5% | 3.2% | 8.8% | 1.1% |
| Other | Singapore | 0 | | | | | | | |
| Subtotal for Other | | 9902 | 5.0% | 5.0% | 3.0% | 0.9% | 2.0% | 3.3% | 0.5% |
| Total | | 52662 | | | | | | | |

YEAR: 1984

7. IPC = G

Physics

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Blocs</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Trilateral</u> | | | | | <u>Families</u> |
| EPC | Austria | 109 | 35.8% | 32.1% | -- | 17.4% | 29.4% | 13.8% | 14.7% |
| EPC | Belgium | 133 | 11.3% | 10.5% | -- | 9.8% | 7.5% | 3.0% | 6.8% |
| EPC | Denmark | 65 | 38.5% | 24.6% | -- | 15.4% | 23.1% | 24.6% | 13.8% |
| EPC | EPO | 282 | 50.0% | 43.3% | -- | 28.7% | 35.5% | 18.4% | 21.3% |
| EPC | Finland | 118 | 37.3% | 30.5% | -- | 24.6% | 24.6% | 21.2% | 18.6% |
| EPC | France | 1468 | 34.9% | 32.7% | -- | 22.1% | 28.6% | 16.1% | 18.1% |
| EPC | Germany | 4363 | 26.6% | 25.5% | -- | 18.9% | 20.9% | 7.4% | 14.2% |
| EPC | Greece | 1 | 100.0% | 100.0% | -- | 100.0% | 100.0% | 100.0% | 100.0% |
| EPC | Ireland | 106 | 8.5% | 7.5% | -- | 3.8% | 6.6% | 3.8% | 2.8% |
| EPC | Italy | 634 | 16.6% | 15.6% | -- | 10.3% | 13.4% | 7.9% | 8.0% |
| EPC | Luxem. | 11 | 9.1% | 9.1% | -- | 9.1% | 9.1% | 9.1% | 9.1% |
| EPC | Monaco | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 225 | 68.0% | 65.3% | -- | 57.3% | 59.1% | 37.3% | 51.1% |
| EPC | Portugal | 8 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 564 | 0.9% | 0.9% | -- | 0.5% | 0.4% | 0.2% | 0.0% |
| EPC | Sweden | 252 | 55.2% | 45.6% | -- | 34.5% | 38.1% | 29.0% | 27.0% |
| EPC | Switzerl. | 267 | 56.6% | 54.7% | -- | 42.7% | 43.8% | 27.0% | 31.8% |
| EPC | Turkey | 9 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1675 | 40.6% | 35.3% | -- | 22.6% | 28.8% | 21.9% | 16.1% |
| <i>Subtotal for EPC</i> | | 10292 | 31.0% | 28.5% | -- | 20.2% | 23.7% | 12.9% | 15.5% |
| Japan | Jpn | 65030 | 11.1% | 10.7% | 6.5% | -- | 9.9% | 2.5% | 5.7% |
| US | USA | 7230 | 46.3% | 41.9% | 37.2% | 33.2% | -- | 27.4% | 28.5% |
| Other | Argen | 9 | 55.6% | 55.6% | 44.4% | 22.2% | 44.4% | 33.3% | 22.2% |
| Other | Austral | 291 | 35.7% | 35.7% | 28.5% | 12.7% | 16.2% | 26.1% | 8.6% |
| Other | Brazil | 383 | 1.0% | 1.0% | 0.8% | 0.3% | 0.5% | 1.0% | 0.3% |
| Other | Bulgaria | 268 | 100.0% | 100.0% | 2.2% | 0.4% | 1.1% | 1.5% | 0.4% |
| Other | Canada | 339 | 18.0% | 18.0% | 9.4% | 8.3% | 13.3% | 16.2% | 5.0% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 288 | 9.4% | 9.4% | 8.3% | 1.7% | 2.1% | 8.7% | 1.0% |
| Other | India | 49 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 55 | 41.8% | 41.8% | 23.6% | 14.5% | 25.5% | 25.5% | 7.3% |
| Other | Korea | 1052 | 1.9% | 1.9% | 0.8% | 1.1% | 1.3% | 1.8% | 0.6% |
| Other | Malay | 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 14 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 31 | 16.1% | 16.1% | 9.7% | 3.2% | 12.9% | 12.9% | 3.2% |
| Other | Norway | 71 | 31.0% | 31.0% | 26.8% | 1.4% | 12.7% | 28.2% | 1.4% |
| Other | Philipp | 16 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 764 | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.1% | 0.0% |
| Other | Romania | 237 | 0.4% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 12963 | 0.5% | 0.5% | 0.4% | 0.0% | 0.0% | 0.4% | 0.0% |
| Other | SouthAfr | 78 | 15.4% | 15.4% | 12.8% | 1.3% | 9.0% | 14.1% | 0.0% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 16909 | 3.6% | 3.6% | 1.5% | 0.6% | 1.0% | 1.7% | 0.4% |
| <i>Total</i> | | 99461 | | | | | | | |

YEAR: 1984

8. IPC = H

Electricity

Secondary Filings as a Percentage of First Filings
 (% Priority filings claimed in Country of Origin From):

| Country | Cntry of | First | All Other | Other | | | | Other | Trilateral |
|---------------------------|---------------|----------------|--------------|-------------------|------------|--------------|------------|------------------|-----------------|
| <u>Bloc</u> | <u>Origin</u> | <u>Filings</u> | <u>Blocs</u> | <u>Trilateral</u> | <u>EPC</u> | <u>Japan</u> | <u>USA</u> | <u>Countries</u> | <u>Patent</u> |
| | | <u>by IPC</u> | | <u>Blocs</u> | | | | | <u>Families</u> |
| EPC | Austria | 113 | 23.0% | 17.7% | -- | 12.4% | 13.3% | 8.0% | 8.0% |
| EPC | Belgium | 72 | 13.9% | 12.5% | -- | 11.1% | 11.1% | 13.9% | 9.7% |
| EPC | Denmark | 38 | 39.5% | 21.1% | -- | 18.4% | 10.5% | 31.6% | 7.9% |
| EPC | EPO | 190 | 51.1% | 44.7% | -- | 28.4% | 40.5% | 23.2% | 24.2% |
| EPC | Finland | 54 | 24.1% | 18.5% | -- | 13.0% | 16.7% | 13.0% | 11.1% |
| EPC | France | 1206 | 38.1% | 35.3% | -- | 23.3% | 31.8% | 16.5% | 19.7% |
| EPC | Germany | 4479 | 25.9% | 23.0% | -- | 17.0% | 17.7% | 9.9% | 11.7% |
| EPC | Greece | 3 | 100.0% | 66.7% | -- | 0.0% | 66.7% | 100.0% | 0.0% |
| EPC | Ireland | 99 | 4.0% | 4.0% | -- | 4.0% | 4.0% | 2.0% | 4.0% |
| EPC | Italy | 488 | 22.3% | 20.9% | -- | 13.7% | 18.2% | 9.4% | 11.1% |
| EPC | Luxem. | 2 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Monaco | 3 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Netherl. | 257 | 82.5% | 81.7% | -- | 75.9% | 73.2% | 57.2% | 67.3% |
| EPC | Portugal | 17 | 0.0% | 0.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | Spain | 375 | 3.2% | 2.4% | -- | 2.4% | 1.1% | 1.3% | 1.1% |
| EPC | Sweden | 172 | 46.5% | 36.0% | -- | 25.0% | 29.1% | 32.0% | 18.0% |
| EPC | Switzerl. | 215 | 48.8% | 40.9% | -- | 29.3% | 36.3% | 26.0% | 24.7% |
| EPC | Turkey | 4 | 100.0% | 100.0% | -- | 0.0% | 0.0% | 0.0% | 0.0% |
| EPC | UK | 1345 | 40.2% | 35.2% | -- | 23.4% | 28.8% | 19.6% | 17.0% |
| <i>Subtotal for EPC</i> | | 9132 | 31.2% | 27.8% | -- | 20.0% | 22.9% | 14.3% | 15.1% |
| Japan | Jpn | 52903 | 7.9% | 7.5% | 5.0% | -- | 7.0% | 2.9% | 4.4% |
| US | USA | 6456 | 44.5% | 39.2% | 34.2% | 31.6% | -- | 26.5% | 26.5% |
| Other | Argen | 4 | 50.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Austral | 156 | 28.8% | 28.8% | 23.7% | 10.3% | 15.4% | 20.5% | 7.1% |
| Other | Brazil | 335 | 0.9% | 0.9% | 0.6% | 0.3% | 0.3% | 0.9% | 0.0% |
| Other | Bulgaria | 154 | 100.0% | 100.0% | 5.2% | 4.5% | 3.2% | 5.2% | 3.2% |
| Other | Canada | 317 | 27.8% | 27.8% | 16.4% | 12.3% | 20.5% | 25.9% | 7.6% |
| Other | China | 0 | | | | | | | |
| Other | Hungary | 207 | 15.0% | 15.0% | 14.0% | 6.8% | 2.9% | 14.5% | 1.9% |
| Other | India | 57 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Israel | 23 | 34.8% | 34.8% | 21.7% | 13.0% | 17.4% | 26.1% | 0.0% |
| Other | Korea | 1092 | 1.8% | 1.8% | 0.6% | 0.5% | 1.0% | 1.2% | 0.1% |
| Other | Malay | 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Mexico | 15 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | NewZeal | 26 | 26.9% | 26.9% | 26.9% | 11.5% | 19.2% | 26.9% | 11.5% |
| Other | Norway | 41 | 34.1% | 34.1% | 34.1% | 7.3% | 19.5% | 34.1% | 4.9% |
| Other | Philipp | 18 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Poland | 540 | 0.7% | 0.7% | 0.7% | 0.0% | 0.0% | 0.7% | 0.0% |
| Other | Romania | 184 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | Russia | 6866 | 0.6% | 0.6% | 0.5% | 0.1% | 0.1% | 0.5% | 0.0% |
| Other | SouthAfr | 123 | 12.2% | 12.2% | 10.6% | 3.3% | 6.5% | 10.6% | 2.4% |
| Other | Singapore | 0 | | | | | | | |
| <i>Subtotal for Other</i> | | 10160 | 4.2% | 4.2% | 2.1% | 1.0% | 1.4% | 2.4% | 0.5% |
| <i>Total</i> | | 78651 | | | | | | | |

Table B3. Growth Rates of Priority (First) Filings, by Selected Countries and IPC code**1. IPC = A
Human Necessities**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | 23.87% | 18.90% |
| Germany | 46.90% | 22.88% |
| UK | 44.83% | 16.65% |
| <i>EPC As a Whole</i> | 24.92% | 10.49% |
| Japan | 57.78% | 35.09% |
| USA | 133.53% | 106.40% |
| Austral | 79.97% | 60.28% |
| Canada | -82.78% | 46.04% |
| Korea | 156.98% | 70.62% |

**2. IPC = B
Performing Operations**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | 20.11% | 8.15% |
| Germany | 40.52% | 23.95% |
| UK | -5.52% | -16.98% |
| <i>EPC As a Whole</i> | 22.37% | 10.12% |
| Japan | 14.22% | 9.60% |
| USA | 80.66% | 73.42% |
| Austral | 56.09% | 39.12% |
| Canada | -124.47% | -4.54% |
| Korea | 186.09% | 153.37% |

**3. IPC = C
Chemistry & Metallurgy**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | 23.19% | 9.80% |
| Germany | 40.53% | 23.73% |
| UK | 24.73% | 1.36% |
| <i>EPC As a Whole</i> | 27.07% | 9.39% |
| Japan | 33.63% | 23.87% |
| USA | 91.52% | 73.36% |
| Austral | 120.28% | 88.32% |
| Canada | -134.71% | -47.80% |
| Korea | 196.22% | 140.16% |

**4. IPC = D
Textiles & Paper**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | -9.91% | -8.53% |
| Germany | 27.87% | 22.66% |
| UK | -19.75% | -12.29% |
| <i>EPC As a Whole</i> | 14.98% | 9.73% |
| Japan | 4.62% | 7.40% |
| USA | 76.81% | 83.33% |
| Austral | 51.08% | 69.31% |
| Canada | -143.07% | -24.51% |
| Korea | 113.98% | 136.62% |

**5. IPC = E
Fixed Constructions**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | -22.90% | -19.09% |
| Germany | 28.18% | 15.78% |
| UK | 6.38% | -7.04% |
| <i>EPC As a Whole</i> | 10.49% | 1.86% |
| Japan | 101.33% | 97.17% |
| USA | 68.76% | 43.11% |
| Austral | 76.73% | 74.80% |
| Canada | -85.88% | 14.21% |
| Korea | 183.49% | 107.70% |

**6. IPC = F
Mechanical Engineering**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | -1.36% | -11.19% |
| Germany | 49.11% | 20.63% |
| UK | -27.92% | -34.15% |
| <i>EPC As a Whole</i> | 18.69% | -0.47% |
| Japan | 21.23% | 14.62% |
| USA | 59.65% | 44.75% |
| Austral | 56.31% | 42.09% |
| Canada | -161.75% | -45.35% |
| Korea | 200.56% | 156.00% |

**7. IPC = G
Physics**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | 16.31% | 5.82% |
| Germany | 63.26% | 31.41% |
| UK | 34.24% | 0.77% |
| <i>EPC As a Whole</i> | 51.51% | 21.75% |
| Japan | 25.36% | 14.88% |
| USA | 156.05% | 127.35% |
| Austral | 122.84% | 56.30% |
| Canada | -57.90% | 4.33% |
| Korea | 214.63% | 152.70% |

**8. IPC = H
Electricity**

| Priority Country or Bloc | Growth Rate of 1st filings Between: | |
|-----------------------------|-------------------------------------|----------------------|
| | <u>1984 and 1999</u> | <u>1984 and 1994</u> |
| France | 50.03% | 17.39% |
| Germany | 62.23% | 18.85% |
| UK | 41.85% | 2.57% |
| <i>EPC As a Whole</i> | 67.44% | 23.78% |
| Japan | 41.37% | 22.71% |
| USA | 148.81% | 113.73% |
| Austral | 122.30% | 77.61% |
| Canada | -70.27% | -12.77% |
| Korea | 273.51% | 207.31% |

Table B4. EPO Filings and Transfer Rate as a Percentage of Previous Year's First Filings

| | 1980 | | 1985 | | Year 1990 | | 1995 | | 2000 | |
|-------------------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|
| | EPO Filings | Transfer Rate | EPO Filings | Transfer Rate | EPO Filings | Transfer Rate | EPO Filings | Transfer Rate | EPO Filings | Transfer Rate |
| <i>EPC Contracting States</i> | | | | | | | | | | |
| Austria | 293 | 12.59% | 534 | 32.52% | 549 | 36.85% | 501 | 26.75% | 491 | 24.49% |
| Bel | 118 | 5.98% | 155 | 9.57% | 202 | 37.76% | 234 | 29.47% | 113 | 19.89% |
| Den | 131 | 16.15% | 221 | 29.70% | 297 | 35.27% | 479 | 40.98% | 285 | 20.76% |
| Fin | 85 | 8.66% | 171 | 12.05% | 395 | 19.03% | 646 | 27.97% | 516 | 20.68% |
| Fra | 2495 | 21.16% | 3793 | 34.98% | 4867 | 42.30% | 4947 | 42.97% | 3990 | 30.76% |
| Ger | 6372 | 16.38% | 9920 | 24.03% | 11662 | 28.42% | 13851 | 26.70% | 14127 | 21.46% |
| Greece | 4 | 16.00% | 5 | 29.41% | 16 | 6.50% | 20 | 9.90% | 22 | 7.46% |
| Ire | 30 | 3.29% | 36 | 2.37% | 65 | 3.32% | 95 | 17.12% | 44 | 13.62% |
| Ita | 601 | 6.29% | 1384 | 14.42% | 2154 | 23.04% | 2056 | 25.83% | 2157 | 29.41% |
| Luxem | 59 | 25.21% | 98 | 55.06% | 31 | 42.47% | 25 | 42.37% | 39 | 57.35% |
| Monaco | 2 | 8.33% | 0 | 0.00% | 1 | 5.56% | 2 | 7.41% | 0 | 0.00% |
| Neth | 561 | 25.57% | 976 | 54.13% | 1083 | 53.04% | 821 | 49.49% | 568 | 23.30% |
| Port | 1 | 0.45% | 8 | 2.96% | 5 | 1.66% | 8 | 3.96% | 10 | 7.04% |
| Spa | 45 | 0.56% | 135 | 1.98% | 226 | 4.09% | 337 | 7.94% | 364 | 7.87% |
| Swe | 606 | 21.01% | 941 | 36.07% | 914 | 42.71% | 1424 | 50.98% | 585 | 17.50% |
| Swit | 1021 | 32.26% | 1319 | 53.34% | 1480 | 56.04% | 1192 | 55.08% | 549 | 46.21% |
| Tur | 0 | 0.00% | 1 | 0.78% | 1 | 1.15% | 1 | 1.35% | 4 | 0.85% |
| UK | 2658 | 18.79% | 4287 | 36.61% | 4506 | 40.44% | 4704 | 42.31% | 3375 | 24.13% |
| <i>Subtotal for EPC</i> | <i>15082</i> | | <i>23984</i> | | <i>28454</i> | | <i>31343</i> | | <i>27239</i> | |
| <i>Japan</i> | <i>3636</i> | <i>2.39%</i> | <i>10276</i> | <i>3.98%</i> | <i>19217</i> | <i>6.08%</i> | <i>16793</i> | <i>5.28%</i> | <i>21653</i> | <i>6.08%</i> |
| <i>U.S.A.</i> | <i>7080</i> | <i>14.25%</i> | <i>12866</i> | <i>26.44%</i> | <i>19442</i> | <i>25.15%</i> | <i>24990</i> | <i>20.53%</i> | <i>20358</i> | <i>13.28%</i> |
| <i>Other Countries</i> | | | | | | | | | | |
| Argen | 0 | 0.52% | 5 | 1.98% | 16 | 14.81% | 13 | 27.08% | 23 | 25.00% |
| Austral | 290 | 8.70% | 586 | 19.64% | 545 | 12.61% | 668 | 12.46% | 304 | 4.43% |
| Braz | 17 | 0.40% | 29 | 0.68% | 37 | 0.76% | 60 | 1.25% | 31 | 0.47% |
| Bulgaria | 8 | 0.57% | 13 | 0.79% | 2 | 0.16% | 7 | 1.69% | 0 | 0.00% |
| Canada | 94 | 2.33% | 200 | 6.37% | 386 | 11.60% | 378 | 12.34% | 174 | 15.51% |
| China | 0 | 0.00% | 55 | 0.00% | 35 | 0.15% | 79 | 0.18% | 112 | 0.18% |
| Hung | 76 | 6.91% | 109 | 4.80% | 65 | 3.41% | 57 | 5.52% | 21 | 2.40% |
| India | 0 | 0.00% | 3 | 0.36% | 6 | 0.34% | 4 | 2.22% | 31 | 13.03% |
| Israel | 25 | 5.72% | 89 | 20.55% | 168 | 32.94% | 261 | 36.00% | 168 | 21.79% |
| Korea | 2 | 0.04% | 24 | 0.32% | 151 | 1.19% | 527 | 1.63% | 1123 | 1.97% |
| Malay | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 5 | 21.74% | 16 | 37.21% |
| Mex | 3 | 0.44% | 2 | 0.65% | 3 | 1.06% | 6 | 12.77% | 3 | 4.41% |
| NewZ | 19 | 6.21% | 48 | 10.17% | 25 | 5.11% | 75 | 10.26% | 68 | 8.73% |
| Nor | 48 | 7.26% | 112 | 15.24% | 104 | 12.90% | 201 | 31.26% | 102 | 10.79% |
| Philip | 5 | 1.60% | 2 | 0.53% | 0 | 0.00% | 4 | 6.78% | 1 | 14.29% |
| Poland | 18 | 0.27% | 19 | 0.38% | 12 | 0.32% | 16 | 0.39% | 12 | 0.35% |
| Roman | 8 | 0.52% | 1 | 0.05% | 5 | 0.18% | 6 | 0.58% | 2 | 0.80% |
| Rus | 1 | 0.00% | 61 | 0.11% | 81 | 0.12% | 125 | 0.98% | 70 | 0.51% |
| Saf | 82 | 6.86% | 90 | 4.21% | 82 | 3.51% | 115 | 8.02% | 45 | 2.82% |
| Sing | 0 | 0.00% | 0 | 0.00% | 9 | 81.82% | 26 | 1.58% | 40 | 11.87% |
| <i>Subtotal for Others</i> | <i>696</i> | | <i>1448</i> | | <i>1732</i> | | <i>2633</i> | | <i>2346</i> | |
| <i>Total</i> | <i>26494</i> | | <i>48574</i> | | <i>68845</i> | | <i>75759</i> | | <i>71596</i> | |

Table B5. EPC Patent Family Counts by Bloc Combinations & Routes

| Blocs Involved | Routes Involved | Average 1979-1999 | 1984 | 1994 |
|----------------|-----------------|-------------------|-------|-------|
| E | National | 64009 | 66998 | 61659 |
| E | EPO | 8752 | 6150 | 11048 |
| E | PCT | 1032 | 117 | 1839 |
| E | PCT/EPO | 1187 | 658 | 1049 |
| E&J | National | 1714 | 1707 | 894 |
| E&J | EPO | 2436 | 1990 | 1710 |
| E&J | PCT | 42 | 27 | 37 |
| E&J | PCT/EPO | 642 | 284 | 519 |
| E&O | National | 1558 | 2048 | 957 |
| E&O | EPO | 1244 | 1140 | 1542 |
| E&O | PCT | 1496 | 116 | 2381 |
| E&O | PCT/EPO | 2830 | 747 | 1733 |
| E&U | National | 2888 | 2638 | 2756 |
| E&U | EPO | 3252 | 2819 | 3669 |
| E&U | PCT | 114 | 31 | 225 |
| E&U | PCT/EPO | 1140 | 580 | 1240 |
| E,J,&O | National | 673 | 660 | 383 |
| E,J,&O | EPO | 1834 | 1532 | 1252 |
| E,J,&O | PCT | 80 | 32 | 94 |
| E,J,&O | PCT/EPO | 1500 | 344 | 1649 |
| E,U,&J | National | 5487 | 6321 | 3814 |
| E,U,&J | EPO | 9908 | 8711 | 11674 |
| E,U,&J | PCT | 102 | 89 | 132 |
| E,U,&J | PCT/EPO | 1792 | 1010 | 3303 |
| E,U,&O | National | 1597 | 1642 | 1267 |
| E,U,&O | EPO | 2507 | 2974 | 2650 |
| E,U,&O | PCT | 423 | 105 | 638 |
| E,U,&O | PCT/EPO | 4877 | 1025 | 4496 |
| E,U,J,&O | National | 3716 | 3890 | 2221 |
| E,U,J,&O | EPO | 12929 | 13990 | 12706 |
| E,U,J,&O | PCT | 195 | 87 | 316 |
| E,U,J,&O | PCT/EPO | 7102 | 2469 | 15722 |

Notation:

E denotes EPC Bloc, U USA, J Japan, and O Other Countries



European Patent Office

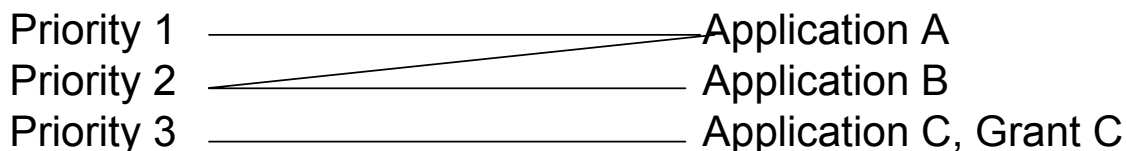
Patent family data and statistics at the European Patent Office.

Peter Hingley; EPO, Munich
Walter Park; American University, USA



1. Introduction

- 2. Construction of families
- 3. Sociology of families
- 4. Timeliness of families data
- 5. Statistical description of filing trends
- 6. Families as a basis for forecasting filings
- 7. Conclusions



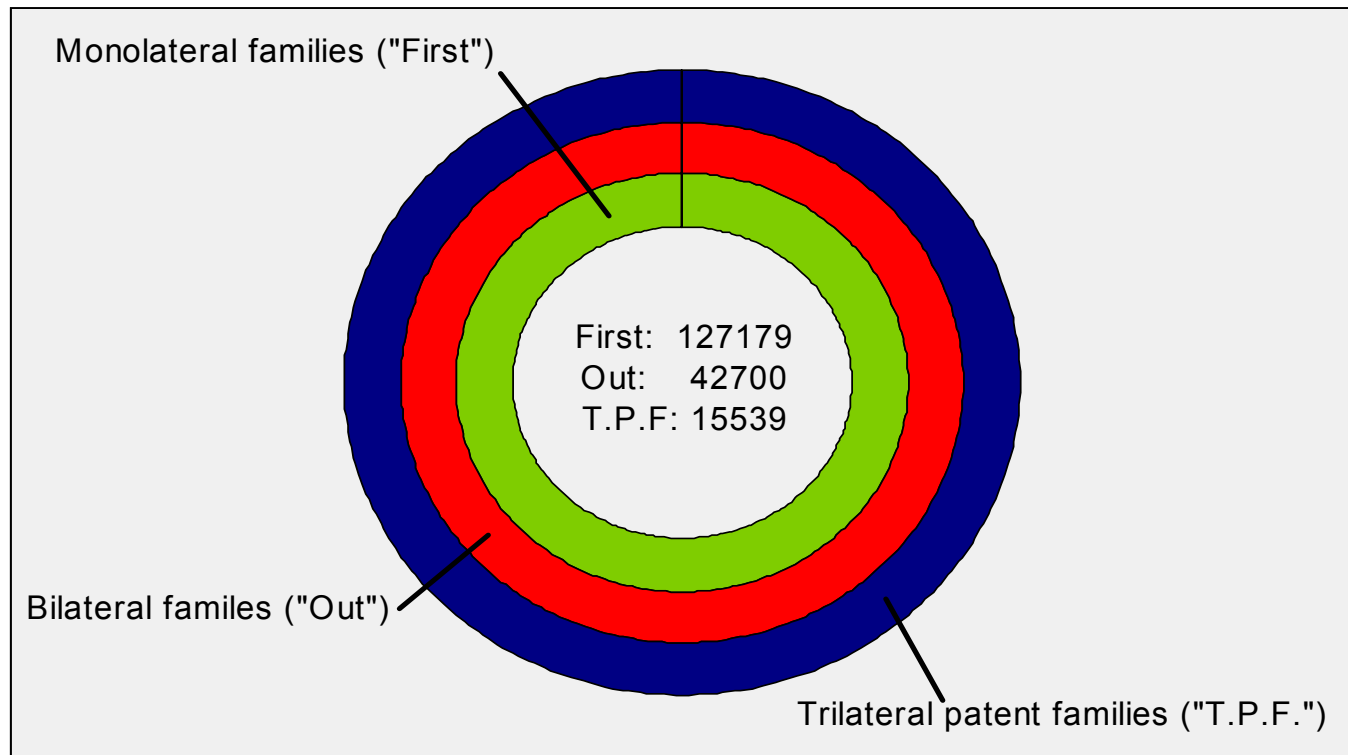
Rearrange as families (PRI file) :

| | | | |
|----------|------------|------------------------------|----------|
| Family 1 | Priority 1 | Application A | Status A |
| Family 2 | Priority 2 | Application A, Application B | Status A |
| Family 3 | Priority 3 | Application C, Grant C | Status G |

Country & Bloc of Filing (EPC, Japan, US, Others), Applicant & Inventor Names, Priority date, Subsequent filings dates, Utility model / Patent, Classification (IPC & NACE), PCT involved, EPO involved.

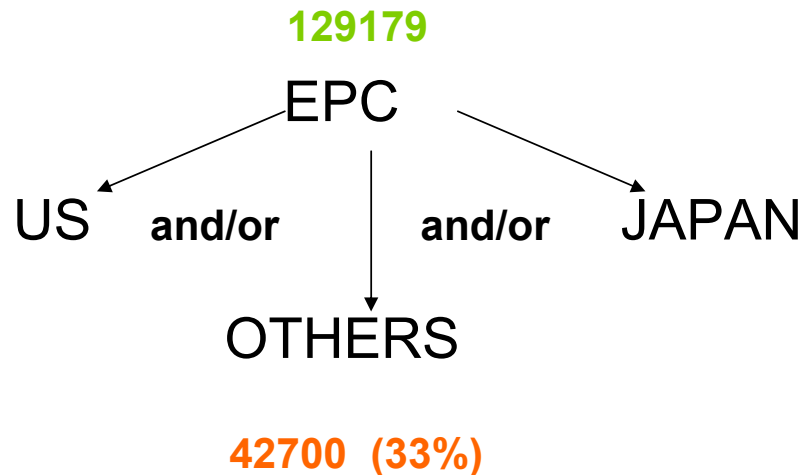


Families originating from first filings in EPC contracting states (including EPO first filings) in 1997.



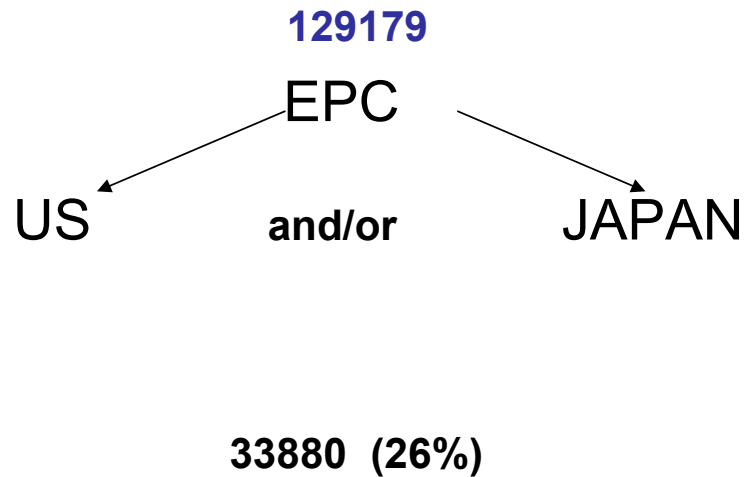


From EPC to any other Blocs (Priority Year 1997)



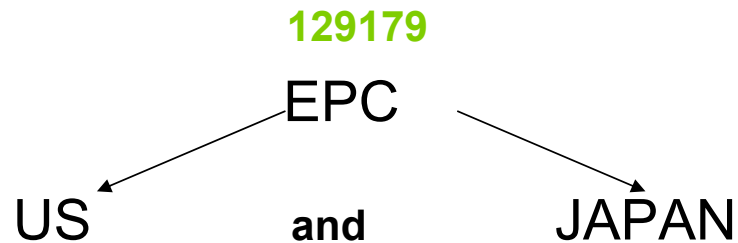


From EPC to Other Trilateral Blocs (Priority Year 1997)





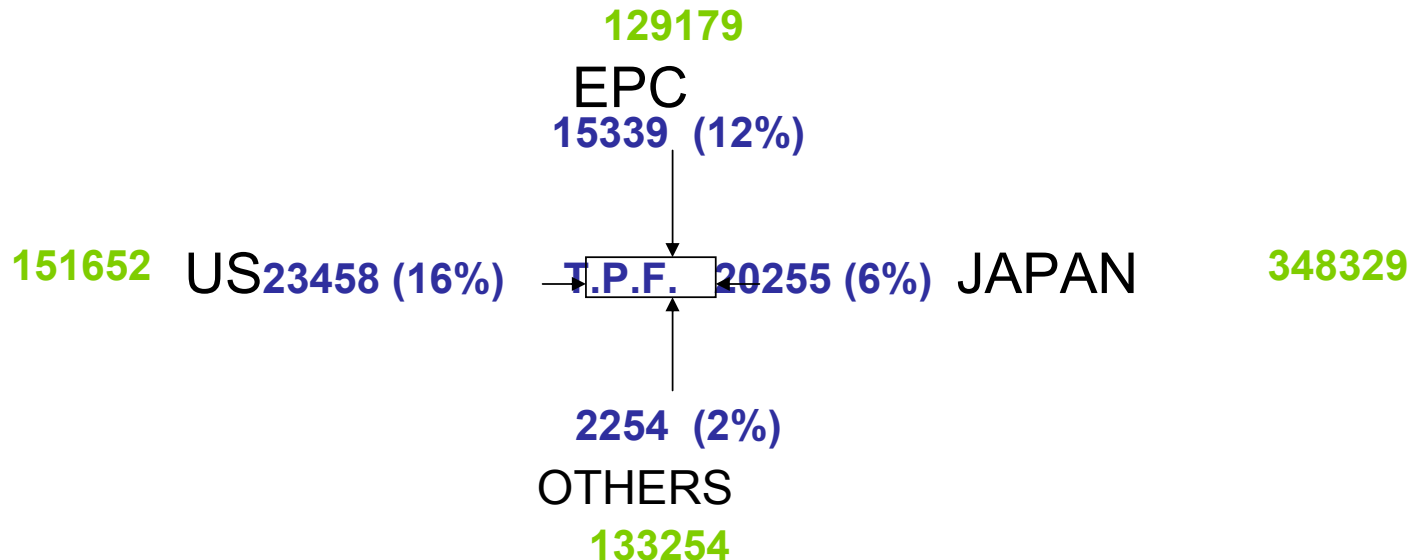
Trilateral patent families from EPC (Priority Year 1997)



15339 (12%)

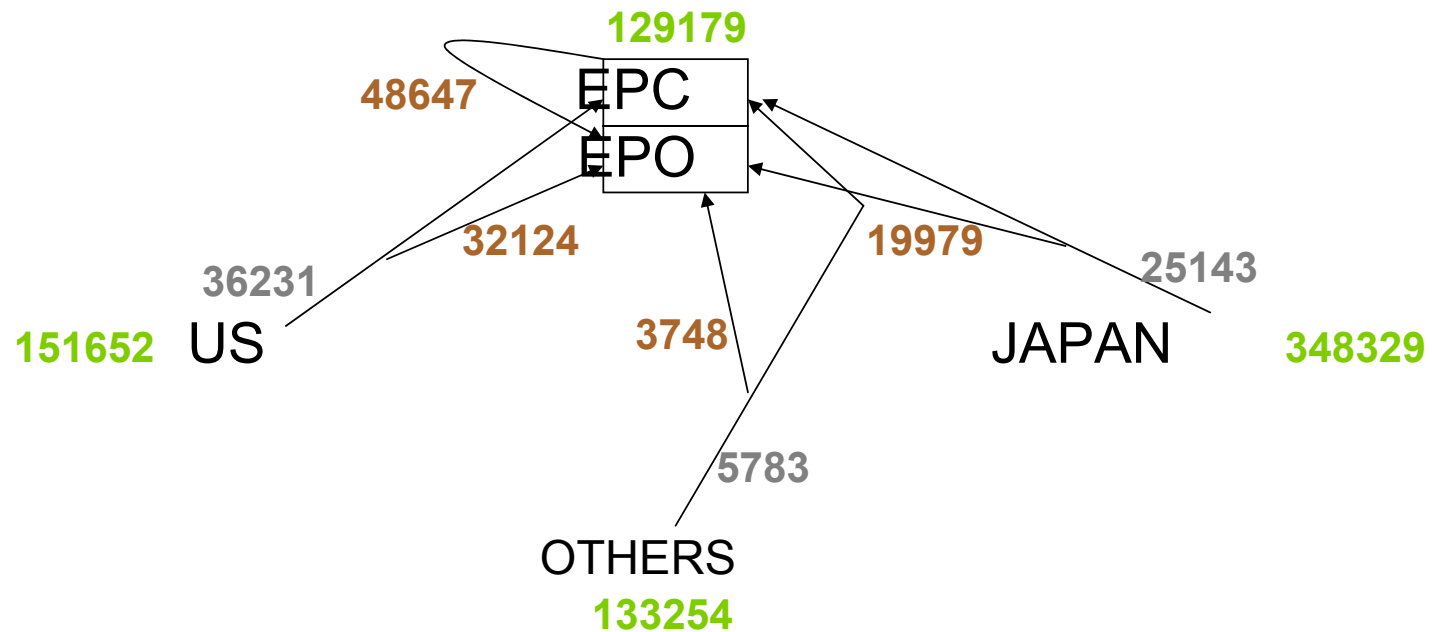


Trilateral patent families (Priority Year 1997)



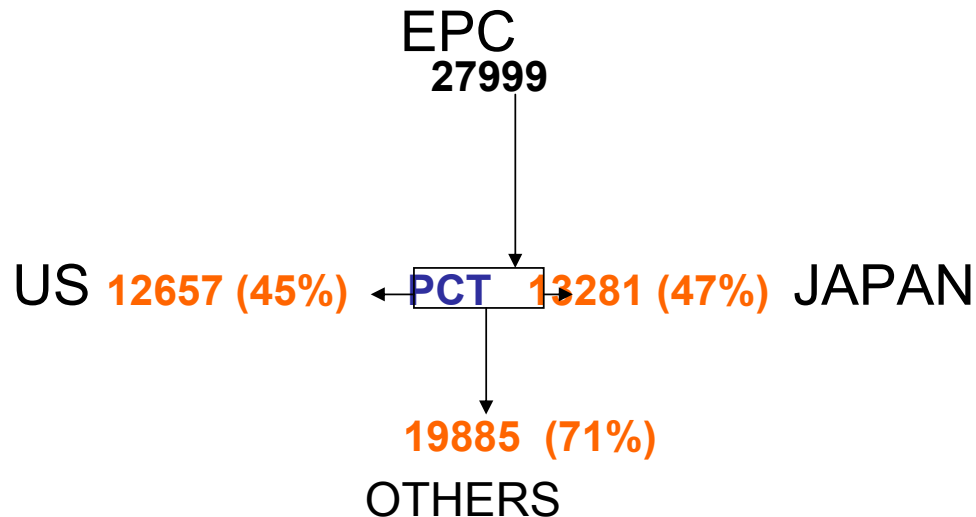


Families subsequent filings to EPO (Priority Year 1997)





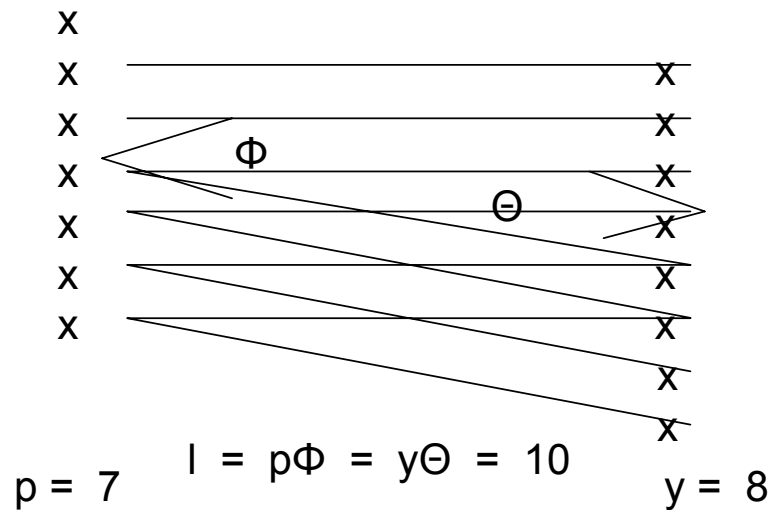
Families from EPC using the PCT system (Priority Year 1997)





Consolidation of families - Minimum bound

Priority filings Subsequent filings



Φ = average number of subsequent filings linked to a priority filing.

Θ = average number of priority filings linked to a subsequent filing.



Consolidation of families

Minimum bound: $c_{\min} = p + y - I$

Important formula: $I = p\Phi = y\Theta$

Therefore: $c_{\min} = p - (\Theta - 1)y$

Maximum bound is effectively p .

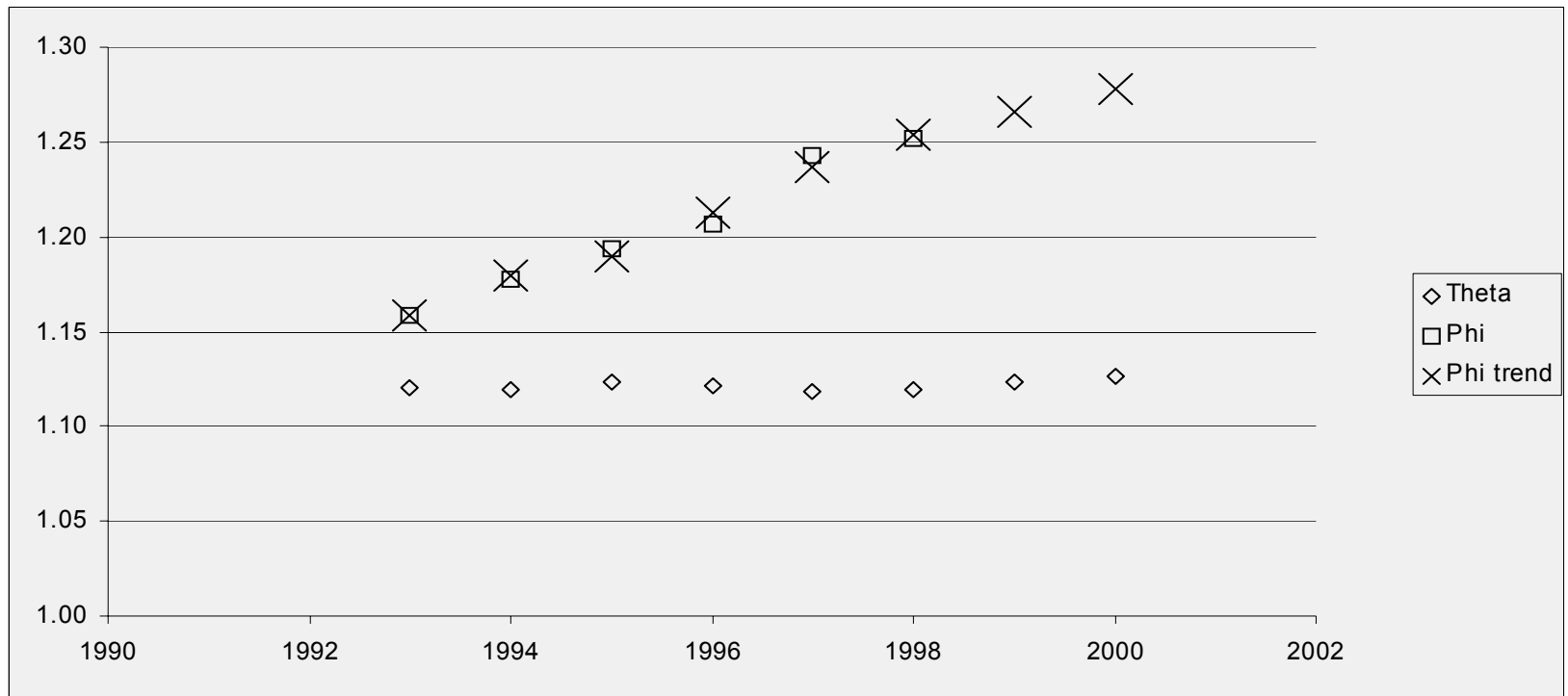
Preliminary comparison exercise by EPO / OECD on priorities in 1993.
Consolidation reduced OECD Triadic patent families to 71% of the
unconsolidated number. Minimum bound on EPO data was 67%.

System works for Bilateral families. Need to think carefully about the
extension to Trilateral patent families.



Trends in Φ and Θ .

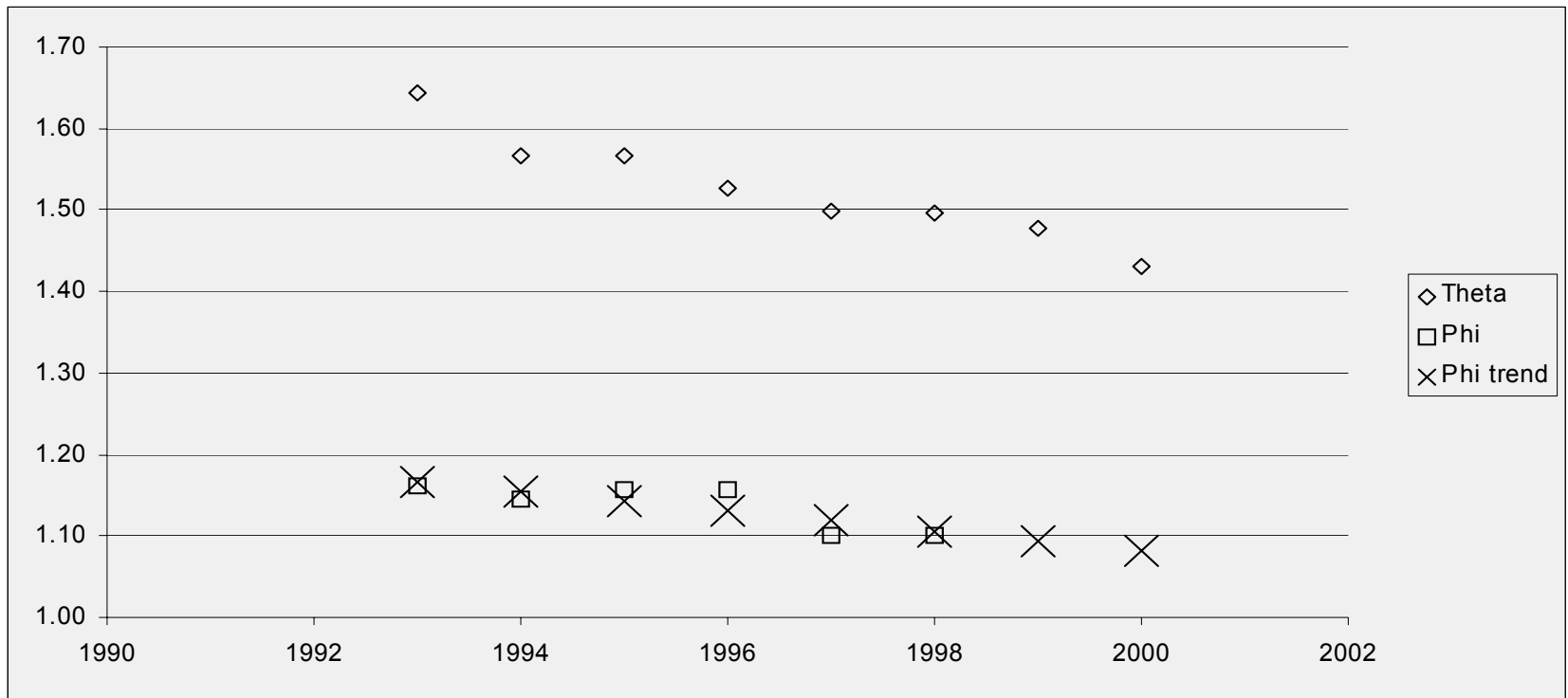
EPC Contracting states priorities flowing to EPO
(includes all first filings at EPO).





Trends in Φ and Θ .

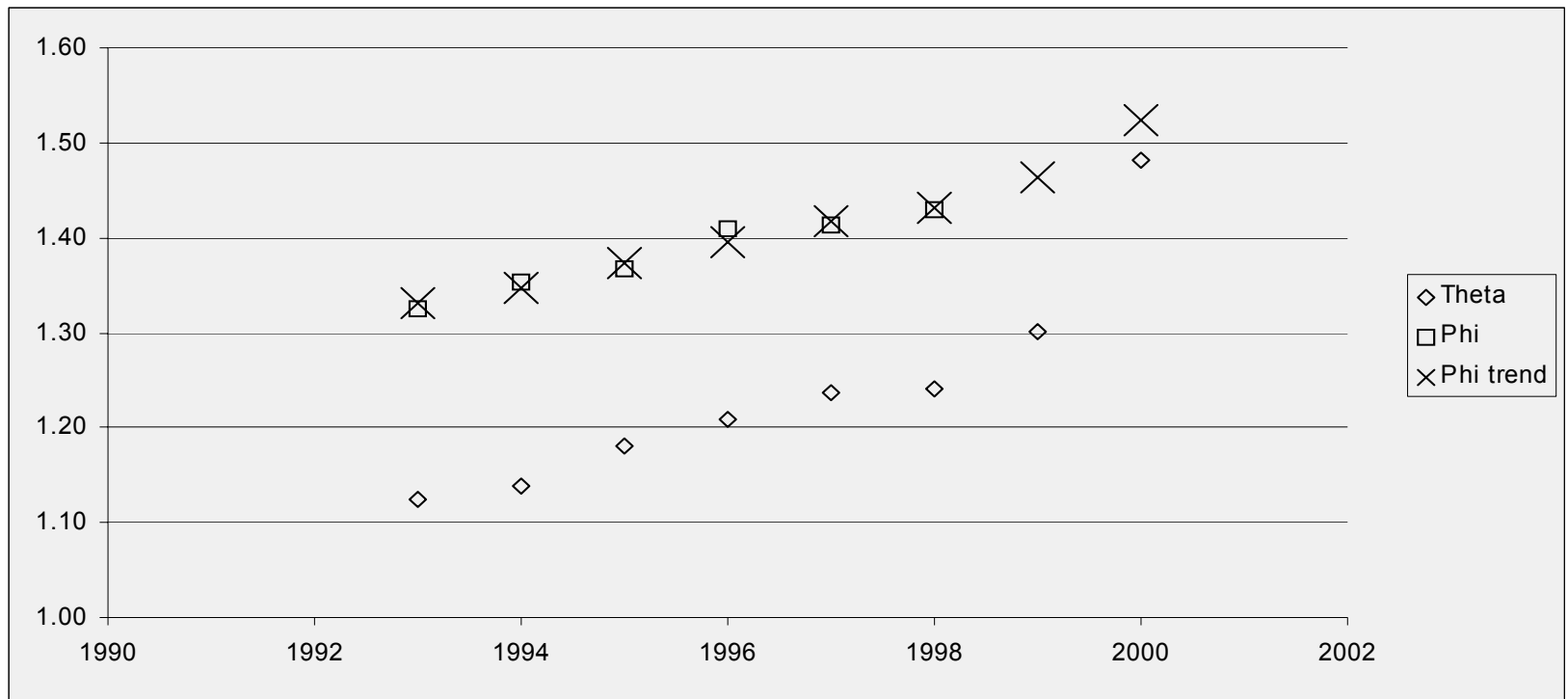
Japan priorities flowing to EPO.





Trends in Φ and Θ .

U.S. priorities flowing to EPO.





Trends in Φ and Θ .

Others priorities flowing to EPO.

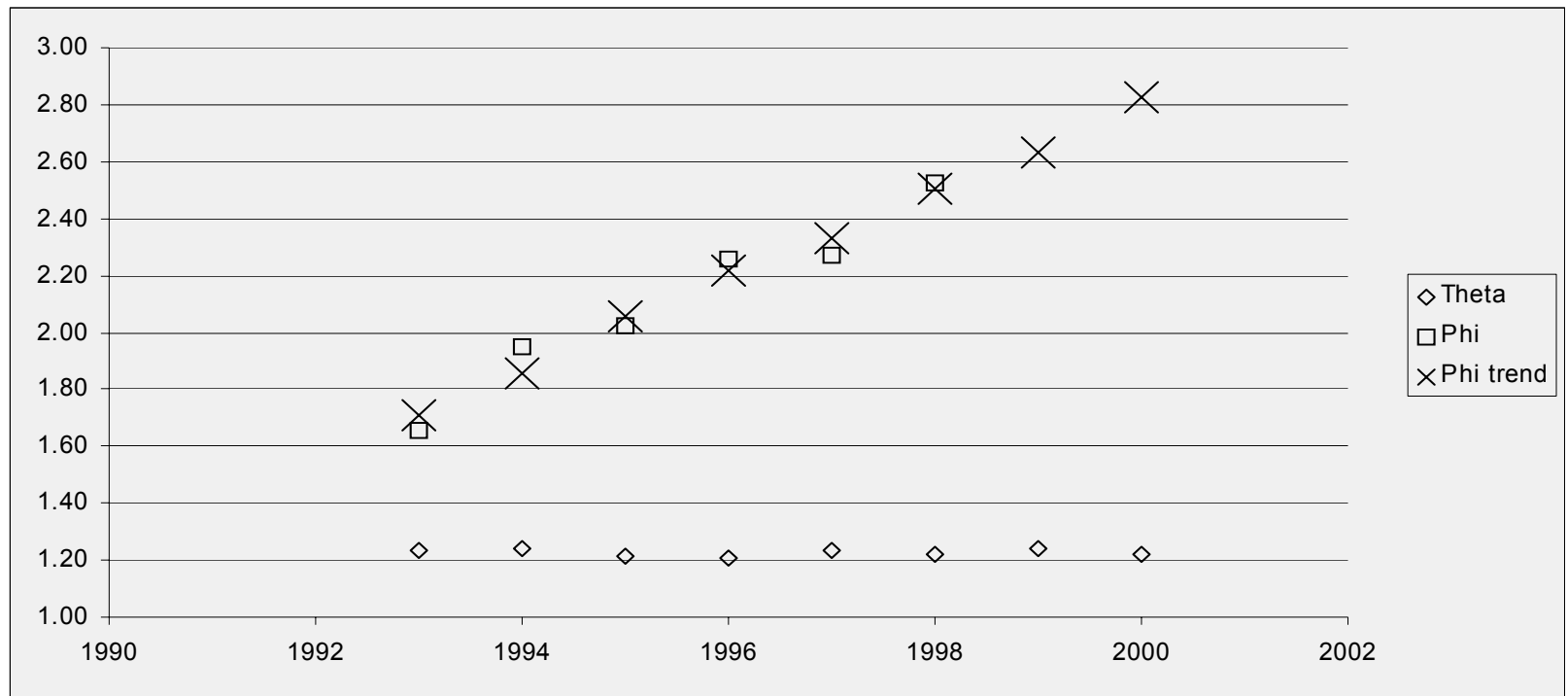




Fig. 1 a) Subsequent filings to EPO from various blocs of origin (y).

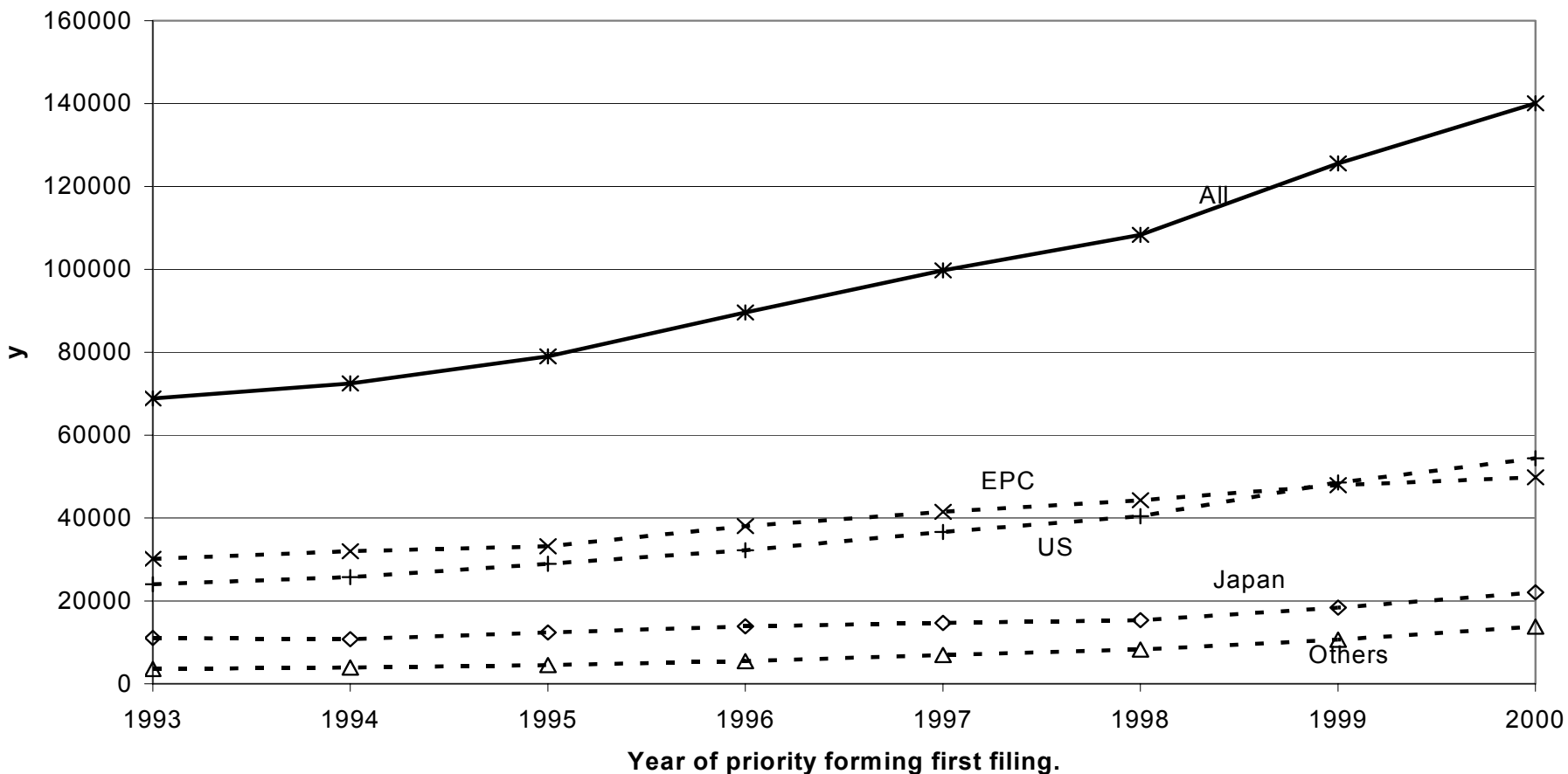
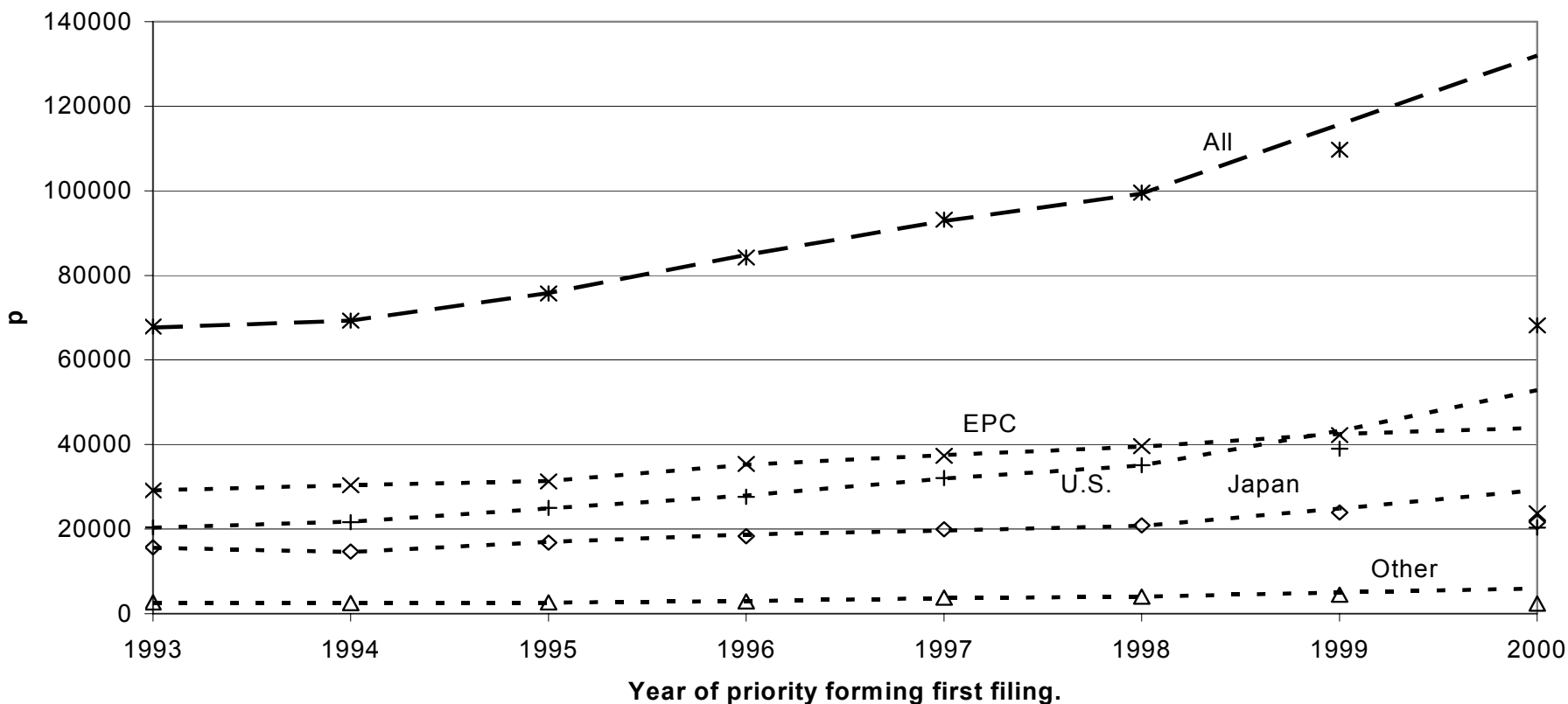




Fig. 1 b) Numbers of families leading to subsequent filings at the EPO from various blocs of origin (p).

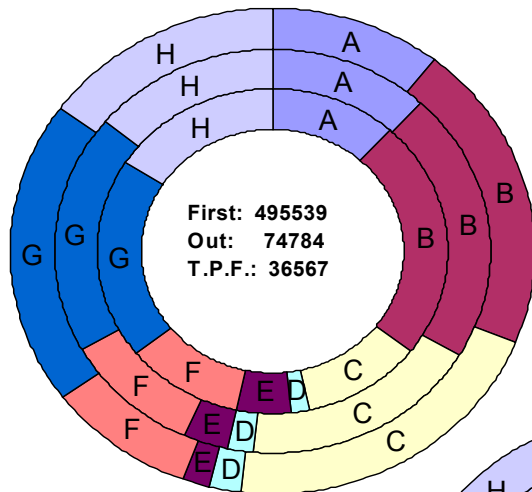
Points are actual values from the PRI file, and lines are trends (see Annex A).



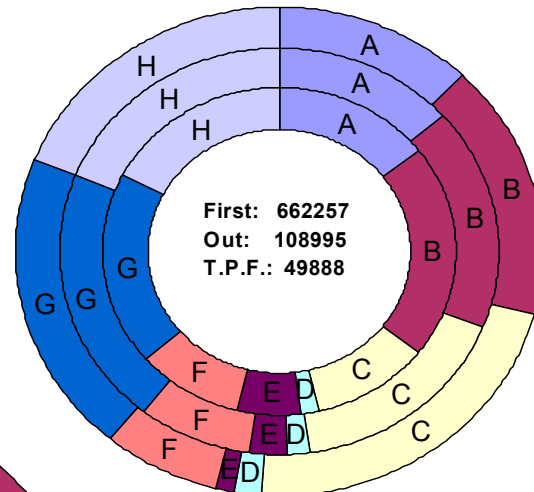


5. Statistical description of filing trends

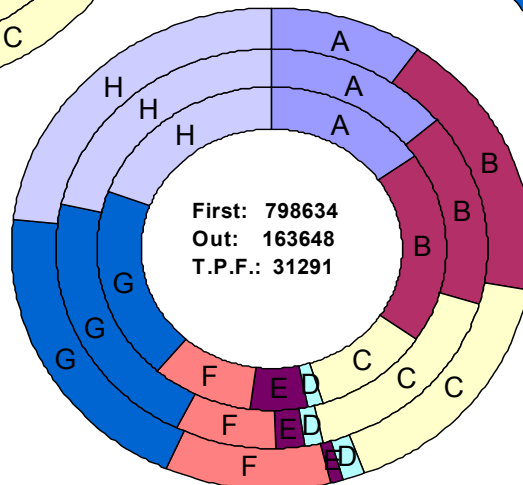
Origin All 1984



Origin All 1994



Origin All 1999



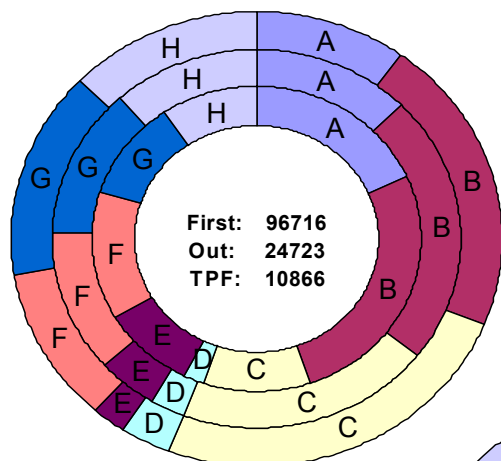
- A Human necessities
- B Performing Operations
- C Chemistry & Metallurgy
- D Textiles & Paper
- E Fixed Constructions
- F Mechanical Engineering
- G Physics
- H Electricity



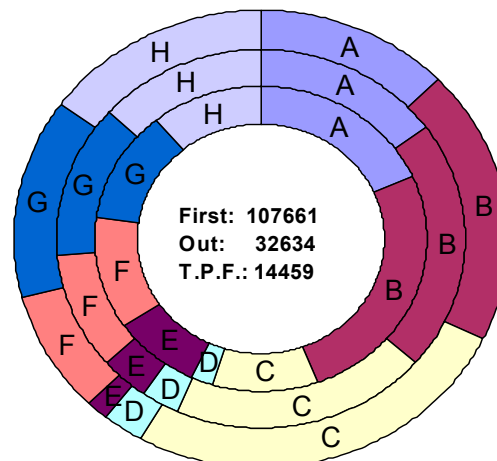
EPO Patent families

5. Statistical description of filing trends

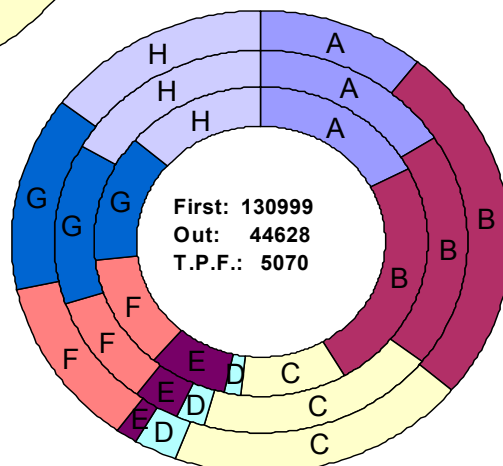
Origin EPC Contracting States 1984



Origin EPC Contracting States 1994



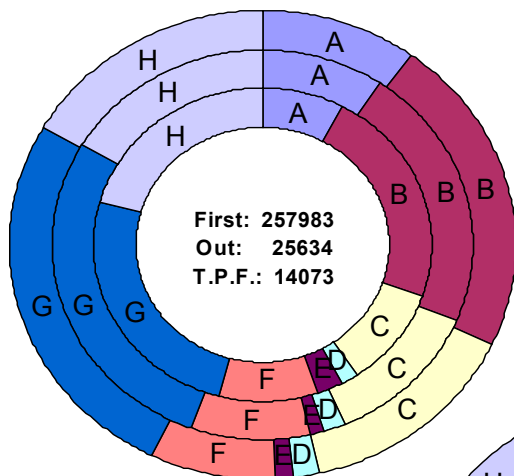
Origin EPC 1999



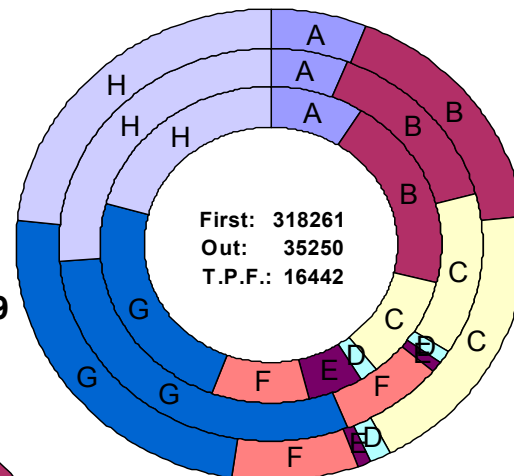
- A Human necessities
- B Performing Operations
- C Chemistry & Metallurgy
- D Textiles & Paper
- E Fixed Constructions
- F Mechanical Engineering
- G Physics
- H Electricity



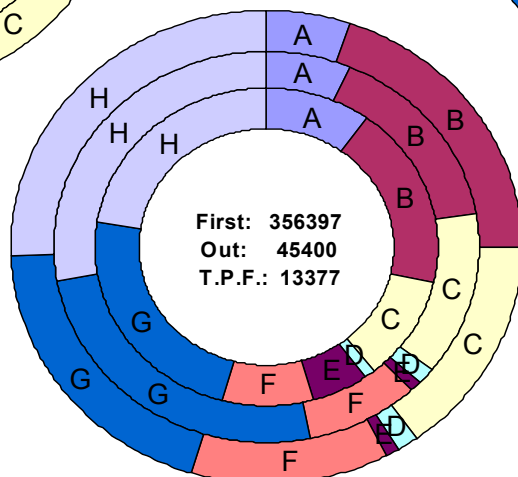
Origin Japan 1984



Origin Japan 1994



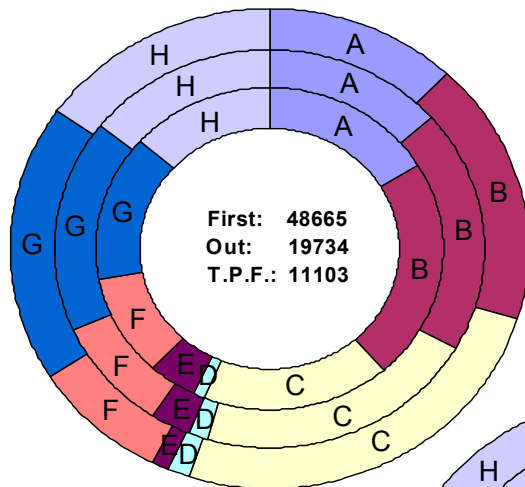
Origin Japan 1999



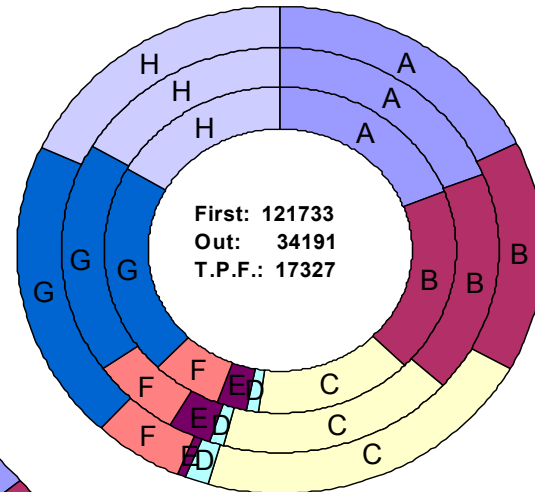
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- B Performing Operations
- C Chemistry & Metallurgy
- D Textiles & Paper
- E Fixed Constructions
- F Mechanical Engineering
- G Physics
- H Electricity



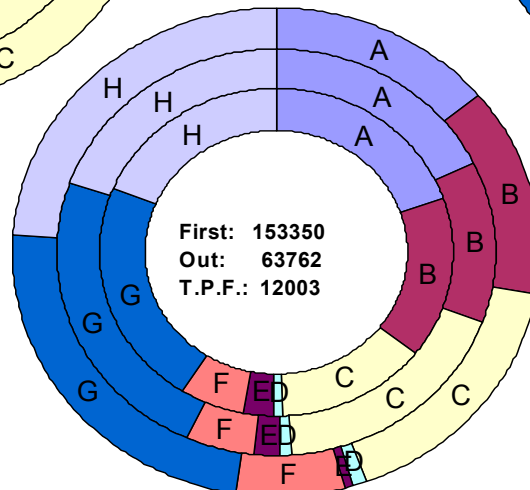
Origin U.S. 1984



Origin U.S. 1994



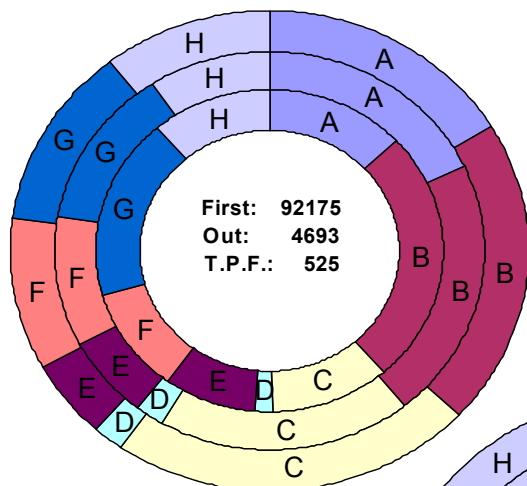
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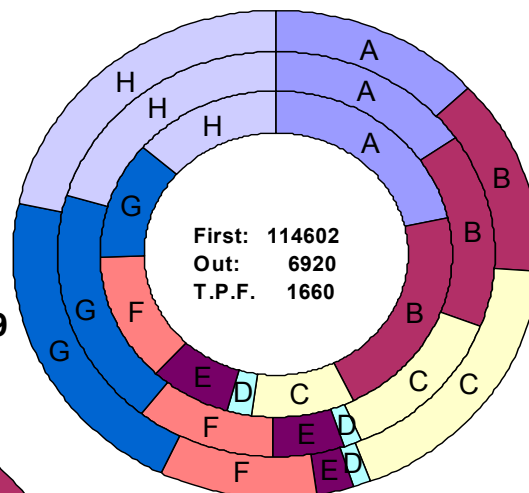
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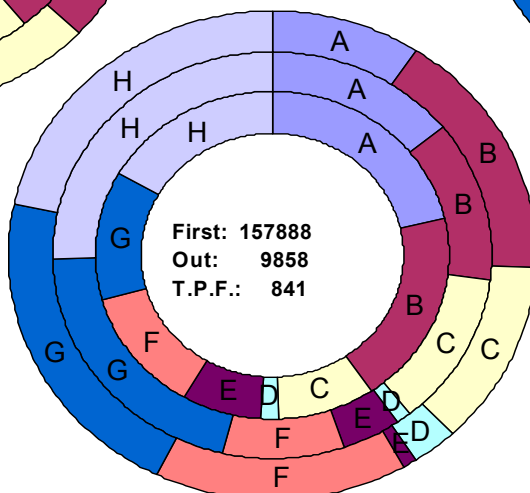
Origin Others 1984



Origin Others 1994



Origin Others 1999



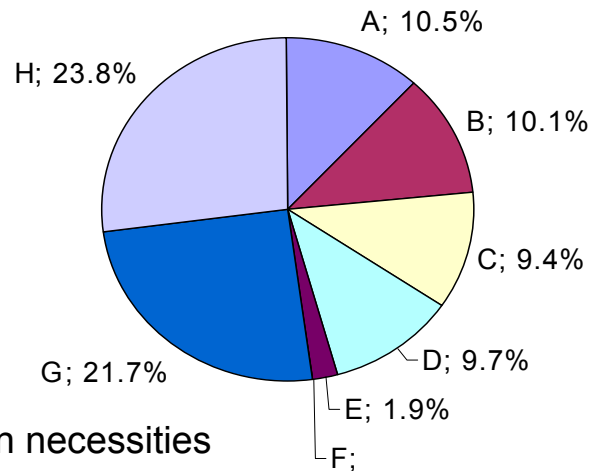
- A Human necessities
- B Performing Operations
- C Chemistry & Metallurgy
- D Textiles & Paper
- E Fixed Constructions
- F Mechanical Engineering
- G Physics
- H Electricity



Growth rates of IPC main Technical Areas from 1984 to 1994

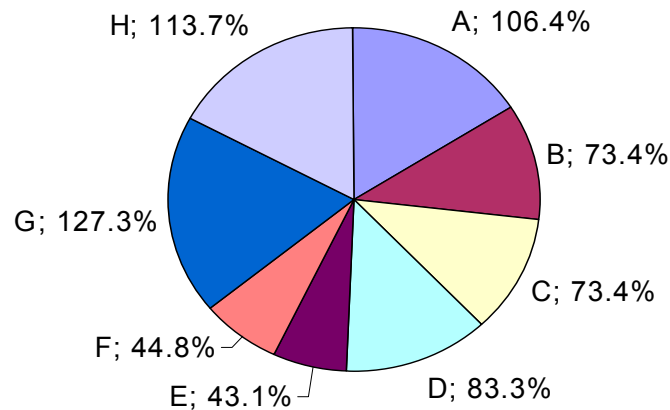
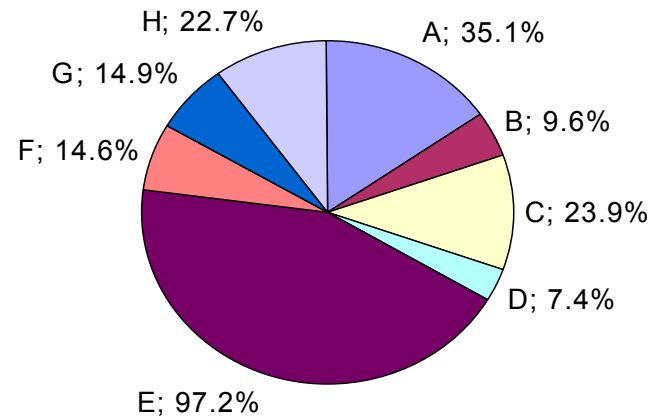
EPC

Japan



A Human necessities
B Performing Operations
C Chemistry & Metallurgy
D Textiles & Paper
E Fixed Constructions
F Mechanical Engineering
G Physics
H Electricity

U.S.





Econometric specification by Ordinary Least Squares (OLS)

Model fitted to subsequent filings at EPO, for data of 1985 and 1990.
Forecasts made for subsequent filings at EPO for 1995 and 2000.

$$\text{Log } \hat{Y}_t = -21.04 + 0.449 \log X_{1t} + 0.669 \log X_{2t} + 0.895 \log X_{3t} + 0.772 \text{ EPO},$$

where

\hat{Y}_t = families with subsequent EPO filings per Source Country Worker at time t
 X_{1t} = source country first filings per worker at time t
 X_{2t} = source country real R&D stock per worker at time t
 X_{3t} = source country real GDP per capita at time t
EPO = 1 if the source country is an EPO state, and zero otherwise

All parameter estimates are significant at 1% level.

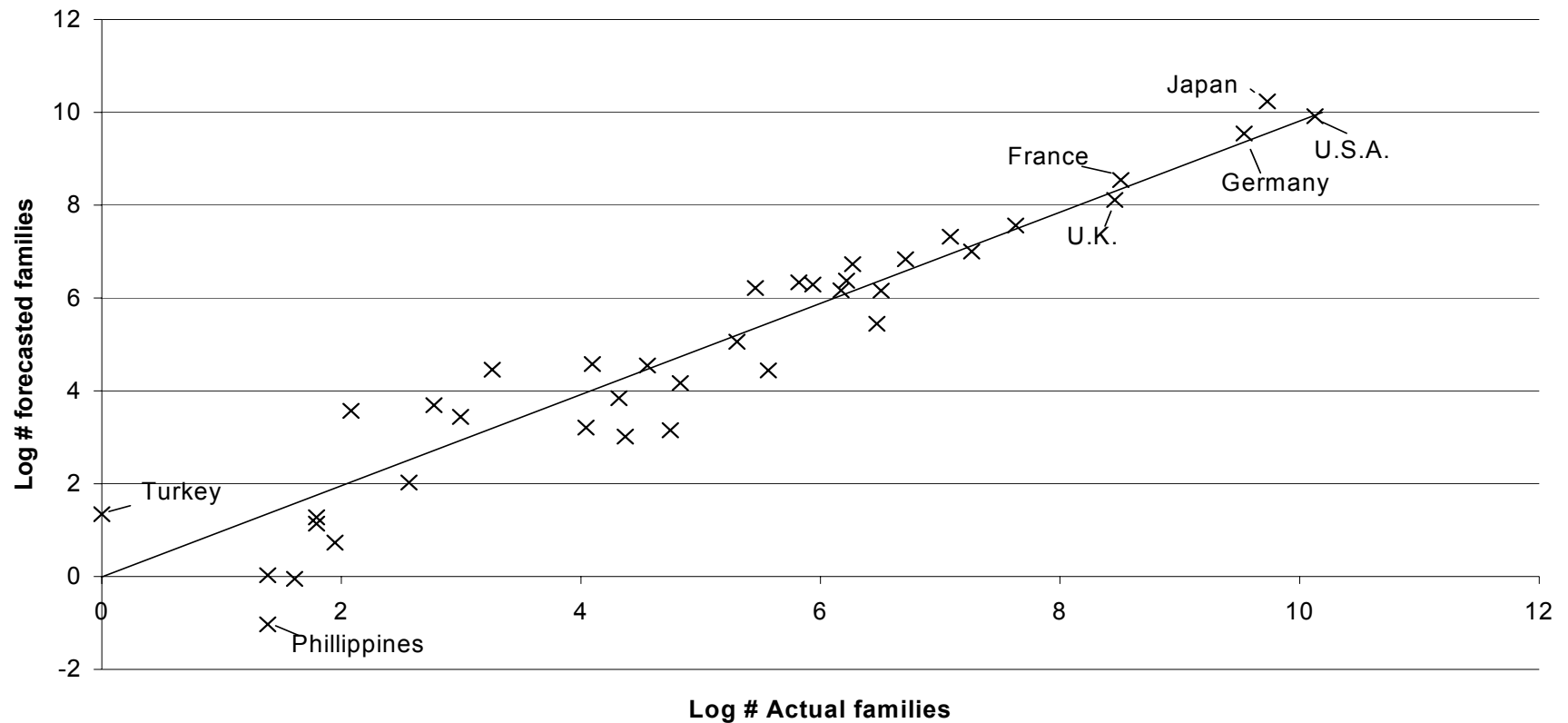


EPO Patent families

6. Families as a basis for forecasting filings

Econometric specification by Ordinary Least Squares (OLS)

Families containing EPO Subsequent Filings in 1995: OLS forecasts vs. Actual filing numbers by country of first filing - natural logarithms.



**Econometric specification by Ordinary Least Squares (OLS)**

Reasonable overall agreement between forecasted and actual families flowing to EPO in **1995**.

BUT some of the largest countries are outliers:

| Country | Forecast | Actual | Deviation |
|---------|----------|--------|-----------|
| Japan | 27 803 | 16 793 | 66% |
| U.S.A. | 20 236 | 24 990 | -19% |
| Germany | 13 923 | 13 851 | 1% |
| Italy | 1 926 | 2 056 | -6% |
| Total | 80 914 | 75 732 | 7% |

Generalised least squares (GLS) also used.

GLS gives higher mean squares than OLS, but a better prediction of total filings.

**Econometric specification by Ordinary Least Squares (OLS)**

OLS and GLS both strongly overestimate families flowing to EPO in **2000**.

This is due to the timeliness problem in the families (PRI) data:

Compare OLS forecasts for 2000 (p) with EPASYS data (y), using the formula
$$y = (\Phi/\Theta) p$$

| Country | Forecast (p) | Φ_{trend} | Θ | Forecast (y) | Actual | Deviation |
|---------|------------------|-----------------------|----------|------------------|--------|-----------|
| Japan | 34 456 | 1.093 | 1.478 | 25 481 | 18 385 | 39% |
| U.S.A. | 28 538 | 1.463 | 1.302 | 32 067 | 48 568 | -34% |
| Germany | 17 820 | 1.265 | 1.123 | 20 073 | 22 405 | -10% |
| Italy | 2 085 | 1.265 | 1.123 | 2 349 | 2 960 | -21% |

Should improve models – e.g. Data analysis over more years incorporating a time series approach. Modelling Euro-PCT filings distinctly from Euro-direct.



1. “1 Priority = 1 Patent” is a useful definition.
2. Unconsolidated families describe the real patterns of world-wide patenting. Consolidated counts can be approximated statistically.
3. A large database with query access for researchers is a better idea than a prescribed set of filtered families by a single definition.
4. Families databases from patent publications are limited by the timeliness problem. Possible solutions include
 - a) Updating counts by correlating to “live” patent office databases,
 - b) Feeding families databases with unpublished applications.
5. Patent families give an added dimension to patent statistics (first filings patterns + transmission patterns to other offices).
6. Patent families should enable better forecasting models for international filings trends to be developed. **And finally ...**



9. The following formula may be useful:-

$$I = p\Phi = y\Theta$$

Thank You.