

PATENTS

Patent-based indicators provide a measure of the output of a country's R&D, i.e. its inventions. The methodology used for counting patents can however influence the results, as simple counts of patents filed at a national patent office are affected by various kinds of limitations (such as weak international comparability) and highly heterogeneous patent values. To overcome these limits, the OECD has developed triadic patent families, which are designed to capture all important inventions and to be internationally comparable.

Definition

A patent family is defined as a set of patents registered in various countries (i.e. patent offices) to protect the same invention. Triadic patent families are a set of patents filed at three of these major patent offices: the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO).

Triadic patent family counts are attributed to the country of residence of the inventor and to the date when the patent was first registered.

Triadic patent families are expressed as numbers and per million inhabitants.

Overview

About 49 000 triadic patent families were filed in 2010, compared to over 45 000 registered in 2000. The United States accounts for 28.1% of patent families, a lower share compared to the one recorded in 2000 (30.5%). The share of triadic patent families originating from Europe has also tended to decrease, losing almost 1 percentage points between 2000 and 2010 (to 28.6% in 2010). The origin of patent families has shifted towards Asian countries. The most spectacular growth was observed by Korea, whose share of all triadic patent families increased from 1.6% in 2000 to 4.4% in 2010. Strong rises are also observed for China and India, with an average growth in the number of triadic patents of more than 28% and 15% a year respectively between 2000 and 2010.

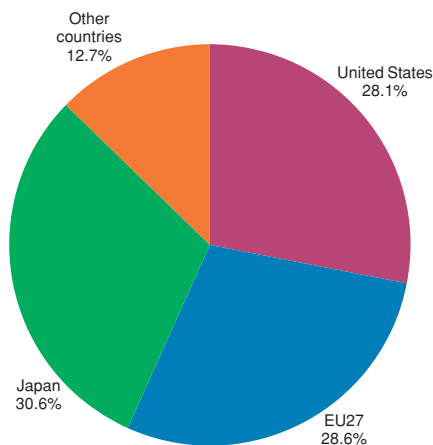
When triadic patent families are expressed relative to the total population Japan, Switzerland, Sweden and Germany were the four most inventive countries in 2010, with the highest values recorded in Japan (118) and Switzerland (109). Ratios for Austria, Denmark, Finland, Israel, Korea, the Netherlands and the United States are also above the OECD average (39). Conversely, China has less than 0.7 patent families per million population.


Comparability

The concept of triadic patent families has been developed in order to improve the international comparability and quality of patent-based indicators. Indeed, only patents registered in the same set of countries are included in the family: home advantage and influence of geographical location are therefore eliminated. Furthermore, patents included in the triadic family are typically of higher economic value: patentees only take on the additional costs and delays of extending the protection of their invention to other countries if they deem it worthwhile.

Share of countries in triadic patent families

Percentage, 2010



StatLink  <http://dx.doi.org/10.1787/888932708959>

Sources

- OECD (2011), *OECD Patent Statistics* (database).

Further information

Analytical publications

- OECD (2012), *OECD Science, Technology and Industry Outlook*, OECD Publishing.
- OECD (2011), *OECD Science, Technology and Industry Scoreboard*, OECD Publishing.

Methodological publications

- Dermis, H. and M. Khan (2004), "Triadic Patent Families Methodology", *OECD Science, Technology and Industry Working Papers*, No. 2004/2.
- OECD (2009), *OECD Patent Statistics Manual*, OECD Publishing.

Websites

- OECD Work on Patents, www.oecd.org/sti/ipr-statistics.



Triadic patent families

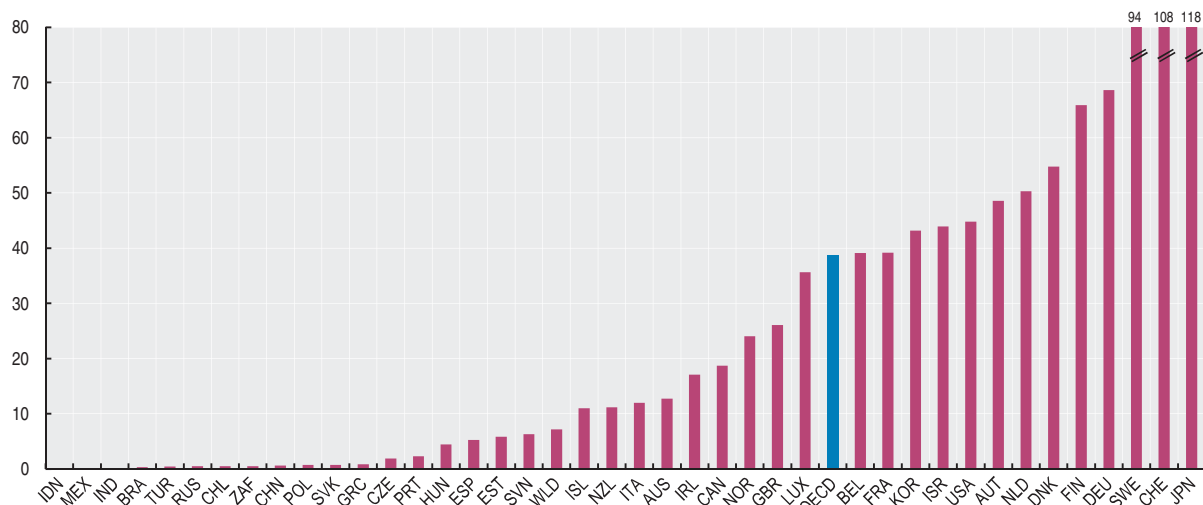
Number

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Australia	301	295	373	276	350	342	367	342	332	318	304	287	284
Austria	270	259	275	257	322	339	384	429	428	411	389	406	407
Belgium	399	374	327	314	343	326	414	379	407	427	403	391	414
Canada	537	524	526	497	594	577	653	668	661	678	611	635	638
Chile	2	2	2	5	5	3	5	5	6	5	5	7	9
Czech Republic	16	10	9	12	14	15	15	15	16	21	22	21	20
Denmark	272	237	223	180	231	246	296	311	304	312	308	297	303
Estonia	2	1	1	2	1	3	1	2	5	5	6	8	8
Finland	454	453	350	303	275	301	339	344	367	364	349	346	353
France	2 289	2 348	2 140	1 960	2 217	2 268	2 412	2 402	2 431	2 477	2 476	2 431	2 447
Germany	6 163	6 016	5 804	5 653	5 502	5 446	5 635	5 779	5 960	5 942	5 741	5 625	5 685
Greece	12	6	6	7	8	13	9	15	14	15	12	12	9
Hungary	18	40	29	31	27	41	44	40	44	47	46	43	44
Iceland	6	7	11	3	9	4	2	4	4	4	4	5	4
Ireland	38	75	31	47	52	66	70	79	74	79	80	78	76
Israel	302	278	321	288	268	295	350	420	420	385	371	341	335
Italy	678	663	638	647	712	710	756	745	756	745	732	713	707
Japan	11 758	13 159	14 749	14 050	14 294	15 016	15 155	14 859	15 048	14 543	13 106	13 070	15 067
Korea	469	581	732	887	1 213	1 695	2 000	2 129	2 134	2 202	1 780	2 067	2 182
Luxembourg	22	22	20	26	10	20	23	18	22	17	21	17	17
Mexico	10	11	9	12	10	15	15	14	19	17	16	13	12
Netherlands	854	915	1 022	1 061	967	939	945	902	1 010	952	939	890	828
New Zealand	52	48	47	33	55	57	63	50	60	55	51	49	49
Norway	97	107	105	78	108	98	107	110	120	119	112	121	118
Poland	4	8	9	12	11	10	17	13	14	17	20	23	27
Portugal	5	5	3	6	6	7	6	12	17	32	30	27	25
Slovak Republic	3	3	2	2	3	5	1	2	3	3	3	3	4
Slovenia	12	4	9	6	14	13	12	18	13	14	16	15	13
Spain	127	126	145	153	164	156	218	220	207	221	227	233	242
Sweden	852	882	618	668	693	674	696	831	899	925	901	870	882
Switzerland	805	773	811	734	806	844	879	870	906	866	850	841	847
Turkey	7	3	4	10	8	9	13	13	14	21	21	26	35
United Kingdom	1 796	1 647	1 622	1 601	1 651	1 666	1 656	1 667	1 705	1 685	1 632	1 613	1 598
United States	14 515	14 574	13 794	13 605	14 471	14 803	15 185	15 352	15 857	15 033	14 096	13 862	13 837
EU 27	14 288	14 105	13 291	12 955	13 231	13 289	13 964	14 238	14 707	14 723	14 371	14 072	14 124
OECD	43 145	44 458	44 768	43 427	45 413	47 022	48 744	49 057	50 275	48 956	45 684	45 382	47 527
Brazil	29	27	29	45	42	43	49	52	49	68	67	60	60
China	49	60	71	100	155	219	228	312	365	467	507	709	875
India	32	39	54	83	126	133	115	130	147	150	162	179	201
Indonesia	3	1	4	2	3	2	0	1	4	1	2	2	3
Russian Federation	96	62	73	53	51	53	50	60	70	68	64	65	73
South Africa	37	28	36	17	27	32	30	35	39	32	31	27	26

 StatLink <http://dx.doi.org/10.1787/888932708921>

Triadic patent families

Number per million inhabitants, 2010


 StatLink <http://dx.doi.org/10.1787/888932708940>



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