

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 influence the results. Simple counts of patents filed at a national patent office are affected by various kinds of limitations, such as weak international comparability (home advantage for patent applications) and highly heterogeneous patent values. The OECD has developed triadic patent families, which are designed to capture all important inventions only and to be internationally comparable.

Definition

A patent family is defined as a set of patents taken in various countries (i.e. patent offices) to protect the same invention. Triadic patent families are a set of patents taken at all 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).

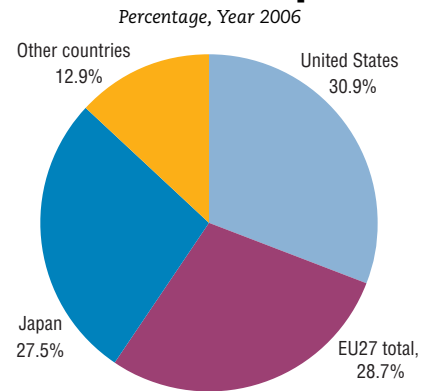
Triadic patent family counts are attributed to the country of residence of the inventor and to the date when the patent was first registered.

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 applied 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 family are typically of higher value: patentees only take on the additional costs and delays of extending protection to other countries if they deem it worthwhile.

Share of countries in triadic patent families



StatLink <http://dx.doi.org/10.1787/537113343565>

Long-term trends

Growth during the second half of the 1990s was at a steady 6% a year on average until 2000. The beginning of the 21st century was marked by a slowdown, with patent families increasing by 1.5% a year on average. The United States, the European Union and Japan show a similar trend, with a stronger deceleration in Japan after 2000.

About 52 000 triadic patent families were filed worldwide in 2006, a sharp increase from less than 36 000 in 1995. The United States accounts for 31% of patent families, a loss of around 3 percentage points from its level in 1995 (34%); the relative proportion of patent families originating from Europe has also tended to decrease, losing more than 4 percentage points between 1995 and 2006 (to 28.7% in 2006). The most spectacular growth has occurred in Asian countries: Japan's share in triadic patent families gained 1 percentage point to reach 27.5% in 2006 and Korea contributed to 5.4% of triadic patent families in 2006 compared to less than 1% in 1995. The upsurge is also observed in China and India.

When triadic patent families are normalised using total population, Switzerland, Japan, Sweden and Germany appear as the four most inventive countries in 2006. Ratios for Austria, Denmark, Finland, Korea, the Netherlands and the United States are above the OECD average (42). Switzerland has the highest number of patent families per million population (115), followed by Japan (111). By size, China has less than 0.4 patent families per million population.

Sources

- OECD Compendium of Patents Statistics 2008.
- OECD Patent Database.

Further information

Analytical publications

- OECD (2008), *OECD Science, Technology and Industry Outlook 2008*, OECD, Paris.
- OECD (2007), *OECD Science, Technology and Industry Scoreboard 2007*, OECD, Paris.
- OECD (2008), *Environmental Policy, Technological Innovation and Patents*, OECD, Paris.

Methodological publications

- OECD (2009), *OECD Patent Statistics Manual*, OECD, Paris.
- Maraut, S., H. Dernis, C. Webb, V. Spiezia and D. Guellec (2008), *The OECD REGPAT database: a Presentation*, OECD Science, Technology and Industry Working Papers, No. 2008/2, OECD, Paris.
- Dernis, H. and M. Khan (2004), *Triadic Patent Families Methodology*, OECD Science, Technology and Industry Working Papers, No. 2004/2, OECD, Paris.

Websites

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



Triadic patent families

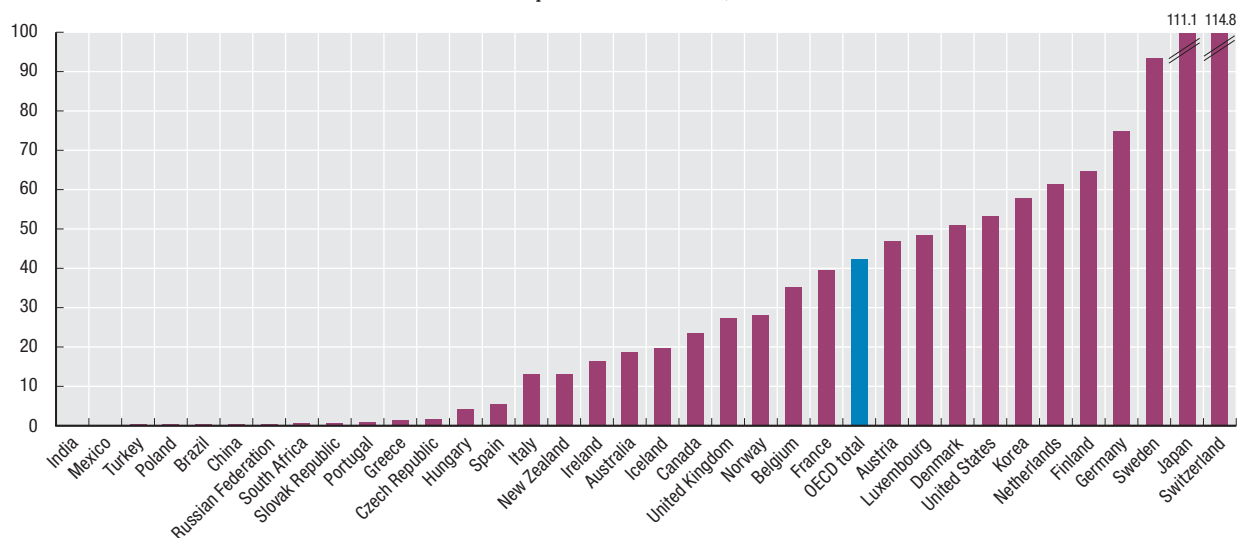
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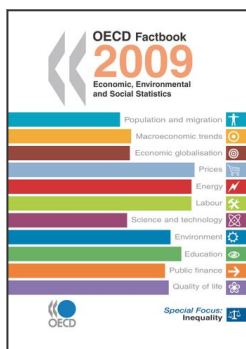
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Australia	196	234	231	233	275	298	324	349	349	372	376	385	386	390
Austria	175	209	221	213	258	269	251	283	263	317	331	343	350	388
Belgium	339	352	373	362	432	393	404	367	339	346	319	379	368	372
Canada	292	357	387	427	527	532	552	537	538	617	635	706	751	767
Czech Republic	8	5	3	11	11	16	9	9	14	16	16	16	15	17
Denmark	159	177	189	226	216	269	246	240	230	236	248	256	264	277
Finland	252	345	316	356	454	440	454	373	347	279	304	314	319	341
France	1 721	1 903	1 971	2 147	2 205	2 272	2 391	2 332	2 370	2 398	2 462	2 500	2 468	2 499
Germany	4 042	4 398	4 849	5 508	5 680	6 119	6 214	6 213	5 792	5 633	5 867	6 079	6 132	6 171
Greece	3	4	2	13	9	10	10	8	6	8	10	9	14	15
Hungary	25	21	25	25	32	18	37	36	33	29	43	40	38	41
Iceland	1	3	6	7	4	6	7	10	3	8	5	2	6	6
Ireland	19	31	31	28	38	38	72	43	54	51	58	68	64	70
Italy	626	619	617	701	737	671	651	691	735	701	716	750	764	767
Japan	8 306	8 273	9 576	10 608	11 109	11 336	12 940	14 943	13 622	13 376	14 174	14 950	13 987	14 187
Korea	164	209	322	322	387	462	604	752	935	1 245	1 729	2 324	2 628	2 785
Luxembourg	13	8	13	16	16	21	22	18	23	14	18	24	21	23
Mexico	6	5	12	10	9	9	11	7	11	10	16	14	18	17
Netherlands	596	677	753	805	835	850	947	1 056	1 238	1 095	1 041	1 079	1 027	1 005
New Zealand	14	24	21	32	39	50	50	57	44	63	69	59	53	54
Norway	73	85	87	75	102	94	110	113	92	113	100	110	130	131
Poland	12	4	5	11	9	4	9	8	9	14	13	12	13	13
Portugal	4	2	3	4	7	4	6	4	6	6	7	6	10	10
Slovak Republic	2	1	2	1	5	3	2	2	2	3	4	3	4	4
Spain	70	87	82	91	109	126	131	156	169	166	171	205	230	236
Sweden	528	665	751	914	979	849	903	697	679	706	690	747	791	847
Switzerland	707	723	760	816	821	795	801	842	819	816	843	839	850	856
Turkey	2	2	2	4	3	7	5	5	9	8	8	12	20	22
United Kingdom	1 429	1 531	1 561	1 659	1 639	1 773	1 729	1 703	1 666	1 669	1 670	1 669	1 654	1 663
United States	10 663	11 089	12 146	12 931	13 914	14 402	14 868	14 475	14 236	14 807	14 960	15 540	15 688	15 942
EU27 total	10 034	11 049	11 779	13 109	13 686	14 163	14 505	14 259	14 001	13 713	14 026	14 533	14 587	14 795
OECD total	30 446	32 046	35 314	38 557	40 861	42 134	44 759	46 331	44 636	45 118	46 902	49 439	49 064	49 914
Brazil	22	12	17	18	29	29	31	33	47	44	51	51	56	65
China	16	17	21	23	43	47	62	84	114	178	252	290	384	484
India	8	6	11	14	22	34	40	45	85	106	120	122	133	136
Indonesia	2	-	-	-	2	3	2	3	2	1	-	-	-	-
Russian Federation	34	51	60	58	69	94	60	69	56	48	51	55	64	63
South Africa	32	21	25	29	34	35	31	35	24	28	30	33	31	30
World	30 794	32 414	35 731	39 098	41 515	42 878	45 507	47 162	45 565	46 120	48 093	50 727	50 569	51 579

StatLink <http://dx.doi.org/10.1787/543388161231>

Triadic patent families

Number per million inhabitants, 2006

StatLink <http://dx.doi.org/10.1787/53706622566>



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