

PATENTS

Patent-based indicators provide a measure of the output of a country's R&D, i.e. its inventions. However, the methodology used can influence the results. Simple counts of patents filed at an intellectual property office are affected by various kinds of bias, such as weaknesses in international comparability (home advantage for patent applications) and highly heterogeneous patent values. The OECD has developed a patents indicator using what are here called *triadic patent families*. This indicator is designed to capture all important inventions 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 Japanese 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.

Comparability

The concept of triadic patent families has been developed in order to improve the international comparability and quality of patent-based indicators.

Long-term trends

In 2002, there were 50 494 patent families in the OECD area, a 55% increase from 1990. The United States accounted for 36% of the OECD total, followed by the European Union (32%) and Japan (26%). Over the 1990s, the European Union's share of patent families converged towards that of the United States, while that of Japan declined.

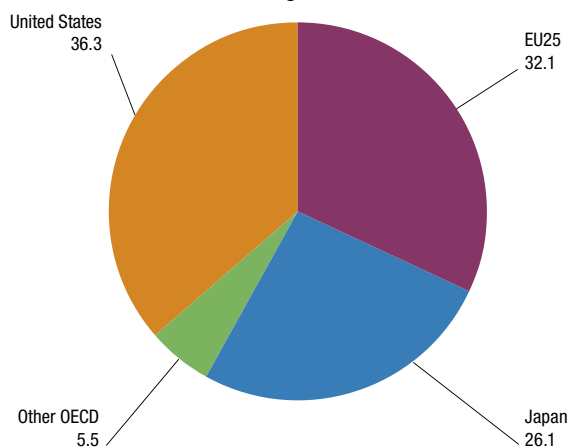
The graph shows patent families per million population. Sweden, Japan, Finland and Switzerland had the highest propensities to patent among OECD countries.

In 2002, Switzerland had 126 patent families per million population and Finland had 114. Japan (104) and Sweden (100) also had a high propensity to patent. In contrast, China, Turkey and Mexico had low propensities to patent.

The numbers of triadic patent families are still insignificant for the five non-member countries shown in the table, although the numbers are growing quite rapidly in China and, to a lesser extent, in India.

Share of countries in triadic patent families

Percentage, Year 2002



StatLink: <http://dx.doi.org/10.1787/677743873822>

Source

VOECD (2005), *OECD Science, Technology and Industry Scoreboard*, OECD, Paris.

Further information

Analytical publications

VDernis, H., D. Guellec and B. van Pottelsberghe (2001), "Using Patent Counts for Cross-country Comparisons of Technology Output", *STI Review No. 27*, OECD, Paris.

VJohnson, D. (2002), *The OECD Technology Concordance (OTC): Patents by Industry of Manufacture and Sector of Use*, OECD Science, Technology and Industry Working Papers, No. 2002/5, OECD, Paris.

VLichtenberg, F. and S. Virabhak (2002), *Using Patents Data to Map Technical Change in Health-Related Areas*, OECD Science, Technology and Industry Working Papers, No. 2002/16, OECD, Paris.

Methodological publications

VDernis, H. and M. Khan (2004), *Triadic Patent Families Methodology*, OECD Science, Technology and Industry Working Papers, No. 2004/2, OECD, Paris.

Online databases

VOECD Patent Database.

Web sites

VOECD Intellectual Property Rights, www.oecd.org/sti/ipr.

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