

Patent applications can be used as an indicator of inventive activity. Patents are one of the mechanisms used to appropriate the results of investments in intangibles. They are a good proxy of innovation efforts; however, patenting activity is strongly associated with sectoral patterns, since some economic sectors (i.e. pharmaceuticals and electronics) tend to show higher patenting trends due to the type of innovative activity than other sectors (i.e. textiles or other low-tech sectors). The analysis of regional patenting helps assess the spatial distribution of inventive activity, not only between countries, but within countries.

Patent applications are concentrated in few countries, and in a small number of regions within each country. In 2007, 55% of all patent applications in OECD countries were recorded by 10% of regions. The geographic concentration of patents is related both to the different input needed for patent generation (e.g. investments, infrastructure, human capital) and to the sectoral concentration of industries (Figure 16.1). High concentration of patents is observed both in countries with large number of patents and in countries with a limited number.

Among the leading countries in patents per million inhabitants, regional disparities are the highest in the Netherlands, the United Kingdom and Korea because of a single top performing region. The United States, Japan, Germany, France and Switzerland have more regions patenting. Regional variation is generally low in the countries with a limited number of patents per million inhabitants, with the exception of Iceland (Figure 16.2).

Technology transfer of public research (universities, hospitals and government research centres) to industry is an important element of national and regional innovation policy. Among the countries that patent the most – the United States, Japan, Germany – around 40% of the collaboration between non-business and business actors happens in the same region and 40% among regions in the same country. On the contrary in Estonia, Turkey, the Slovak Republic and Finland business and non-business collaborations are mostly carried out beyond national boundaries (Figure 16.3). In China most of the business and public collaboration occur within national borders, while in India collaboration with foreign countries accounts for 30% of the co-patenting among different actors.

### Definition

A patent is an exclusive right granted for an invention, which is a product or a process with industrial applicability that provides, in general, a new way of doing something, or offers a new technical solution to a problem (“inventive step”). A patent provides protection for the invention to the owner of the patent. The protection is granted for a limited period, generally 20 years.

Data refer overall patent applications to Patent Cooperation Treaty (PCT) applications.

Patent documents report the inventors (where the invention takes place), as well as the applicants (owners), along with their addresses and country of residence. Patent counts are based on the inventor's region of residence and fractional counts. If on the patent document are registered two or more inventors, the patent is classified as a co-patent.

A co-patent is classified as a collaboration between business (companies) and non-business organisations (government, universities or hospitals) when there is at least one business applicant and at least one public applicant. The co-patents so classified are successively assigned to the region(s) of residence/work of the co-inventors. Co-patents involving only individuals are not classified as business-non business collaboration. This has to be taken into account in the results, since in some countries the weight of individuals' applicants is quite high.

### Source

OECD REGPAT Database <http://dotstat/wbos/>.

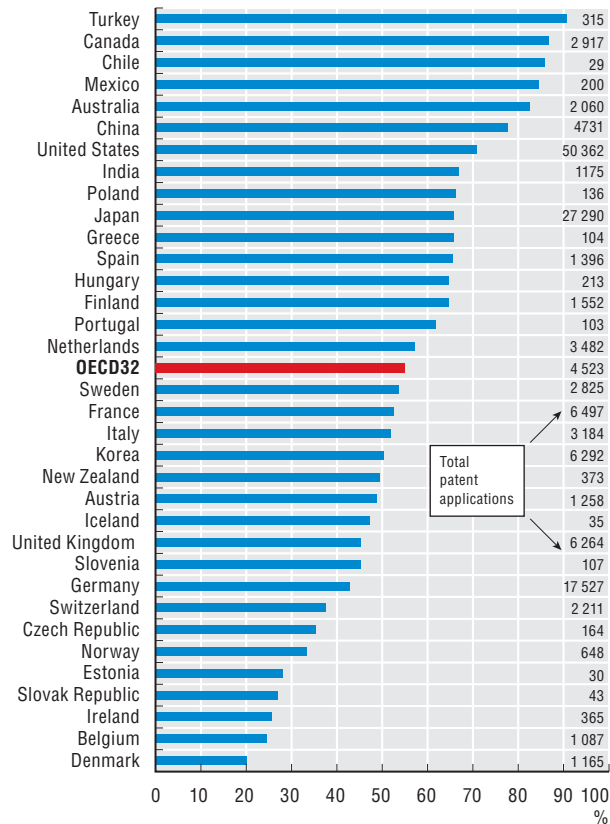
See Annex B for data, source and country-related metadata.

### Reference years and territorial level

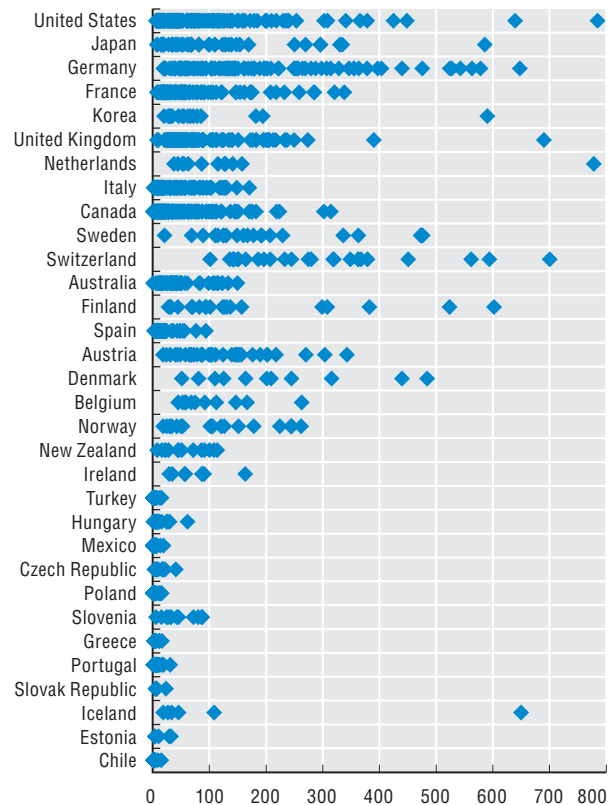
1995-2007; TL2 and TL3.

## 16. PATENTS IN REGIONS AND AMONG DIFFERENT ECONOMIC ACTORS

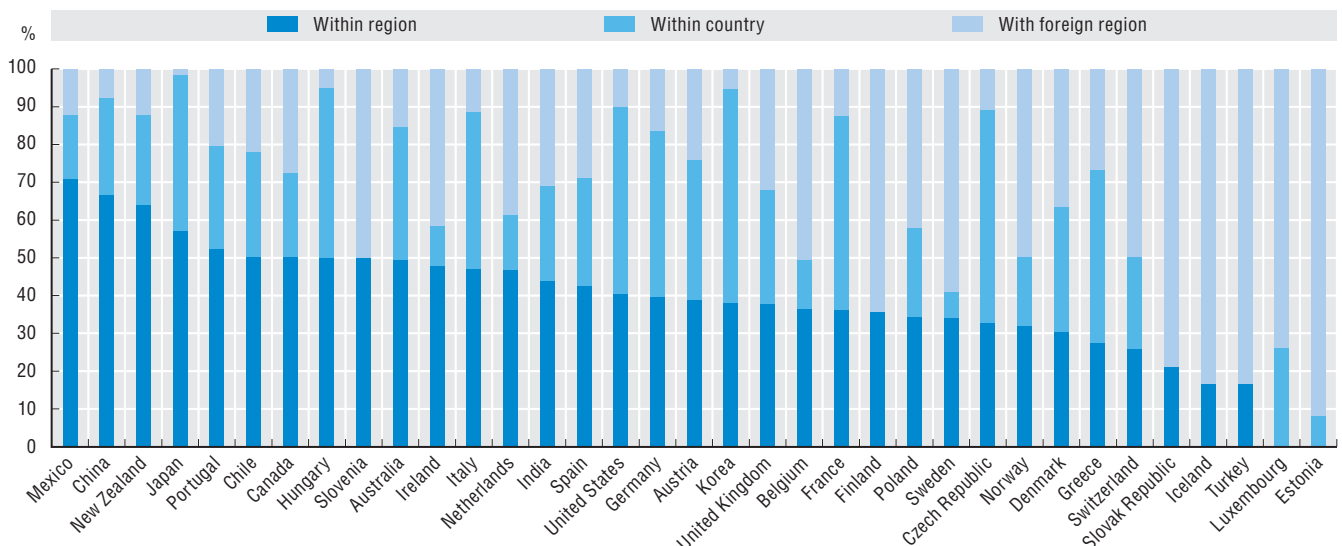
**16.1. Percent of patent applications in the 10% of TL3 regions with the highest concentration of patents, average 2005-07**



**16.2. Range in TL3 regional patent applications per million population, 2005-07**



**16.3. Share of collaboration between business and public (co-patenting with at least one business and one public applicant) over total co-patenting, by location of applicants, 2005-07**



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