Scientific publications C 7

The bibliometric database Web of Science (WoS) covers worldwide publications in scientific journals as well as citations of these publications. The research affiliation of a scientist referenced in the database makes it possible to assign individual publications to a specific country. In cases where several co-authors of a single publication reside in different countries, fractional counting is employed.

The extent to which countries were represented in all WoS publications changed significantly between 2003 and 2013 (C 7-1)[332] China in particular almost tripled its share of publications from 4.8 to 13.4 percent. The shares of Korea, Brazil, India and South Africa also increased during this period. By contrast, the shares of established science systems in the USA, western Europe and Japan decreased: the USA lost nearly 7 percentage points, Germany only just under 2 percentage points. Despite the massive growth in publications in China, some countries in Europe still succeeded in keeping their shares constant over time, or even to increase them slightly. These countries included e.g. the Netherlands, Denmark, Poland, Spain and Italy.

In 2011, scientists above all in Switzerland, the Netherlands, Denmark and the USA succeeded in placing their publications particularly in scientific journals with an international audience (C 7-2). According to this quality indicator, Germany was on a comparable level to the UK, Sweden and Israel in 2011. Scientific publications from the Netherlands, Denmark and Israel have developed especially positively since 2003. Publications from Germany also developed very positively during this period. By contrast, scientists from the United States seem to have lost ground with regard not only to the quantity (see above), but also to the quality of their published works. Most of the BRICS countries (Brazil excluded) succeeded in improving their global position in the index, at least slightly, over time.

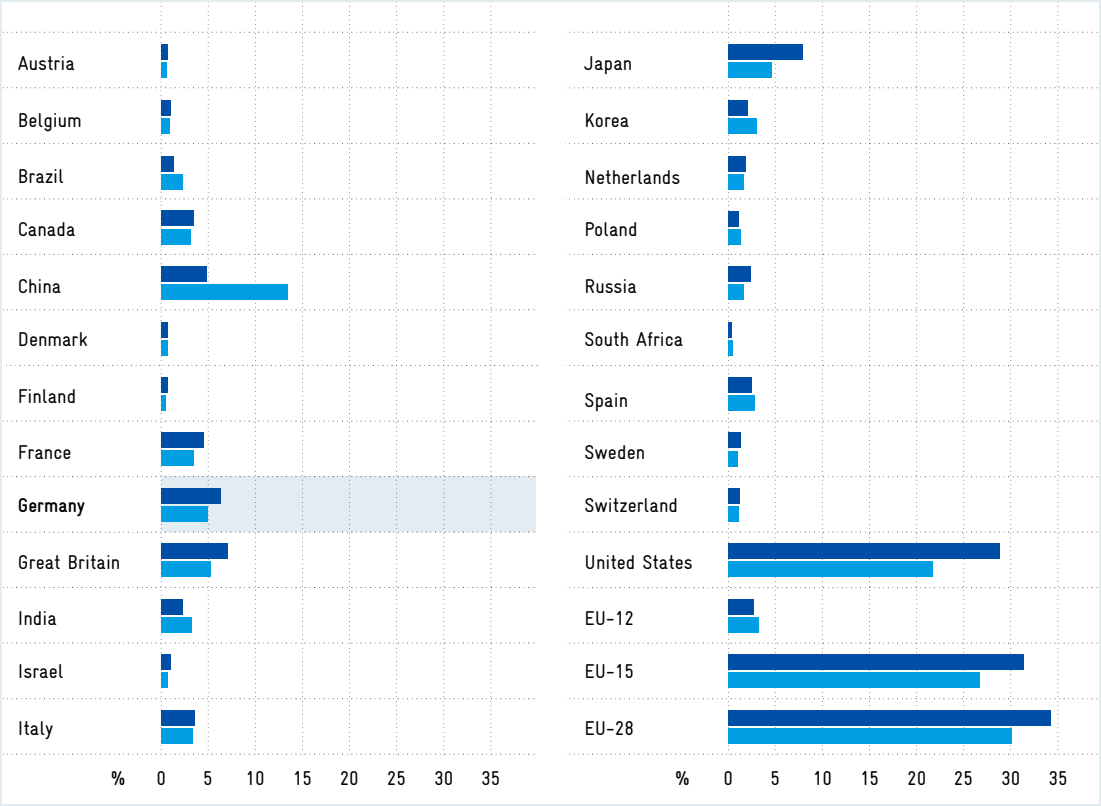
When compared internationally, publications from the Netherlands, Denmark and Switzerland were cited in scientific journals most frequently (C 7-3), indeed more often than publications from the United States and the UK. Brazil, China and India have experienced a particularly promising development since 2003. In terms of dynamics, a decline could be observed primarily in the Netherlands and Denmark, despite the good starting position in these countries. Germany's position deteriorated slightly. With regard to the two quality measures of the publication activities of scientists in Germany, the overall picture emerging is somewhat mixed (C 7-2 and C 7-3).

C 7-1

Data
Download

Percentages of all publications in the Web of Science that stem from selected countries and regions, 2003 and 2013

The analysis concentrates on the shares of countries, rather than on absolute figures, to compensate for changes caused mainly by the ongoing expansion of data collection.



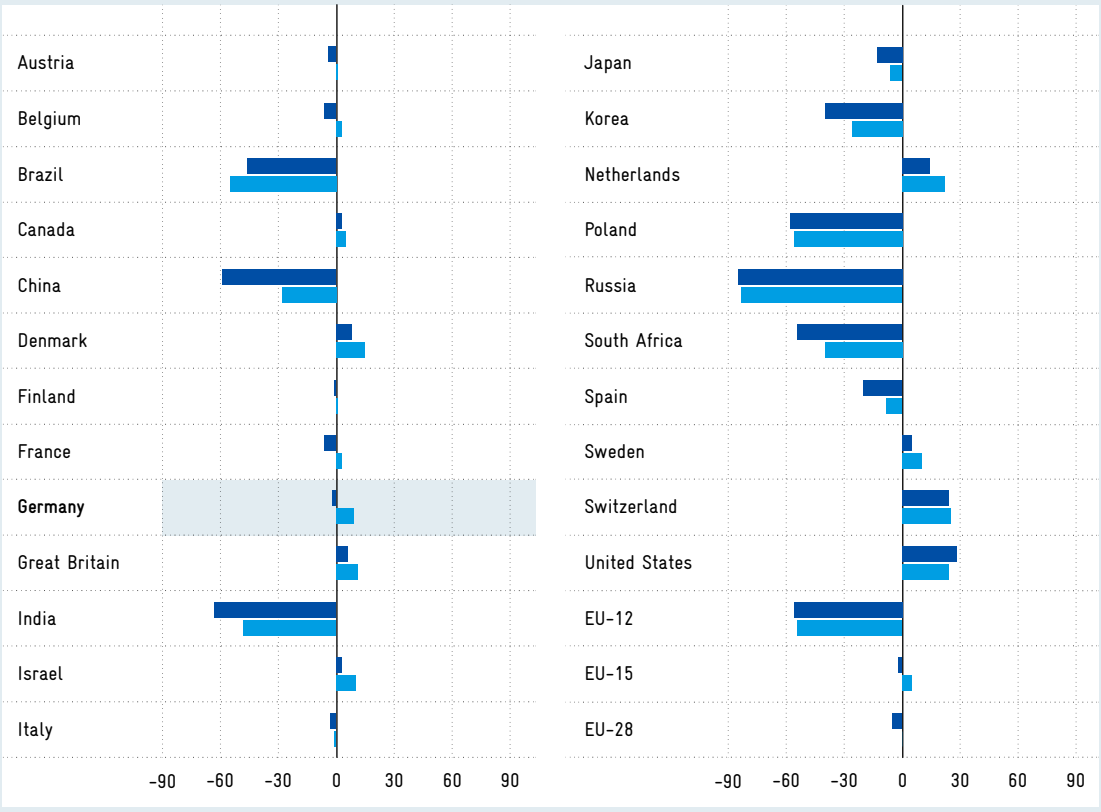
Source: Web of Science. Research and calculations by Fraunhofer ISI. Fractional counting.

C

C 7-2
Data
Download

International alignment (IA) of publications in the Web of Science from selected countries and regions, 2003 and 2011 (index values)

The IA index indicates whether a country's authors publish in internationally more highly recognised or less highly recognised journals relative to the world average. Positive or negative values indicate an above-average or below-average IA.



Source: Web of Science. Research and calculations by Fraunhofer ISI. Fractional counting.

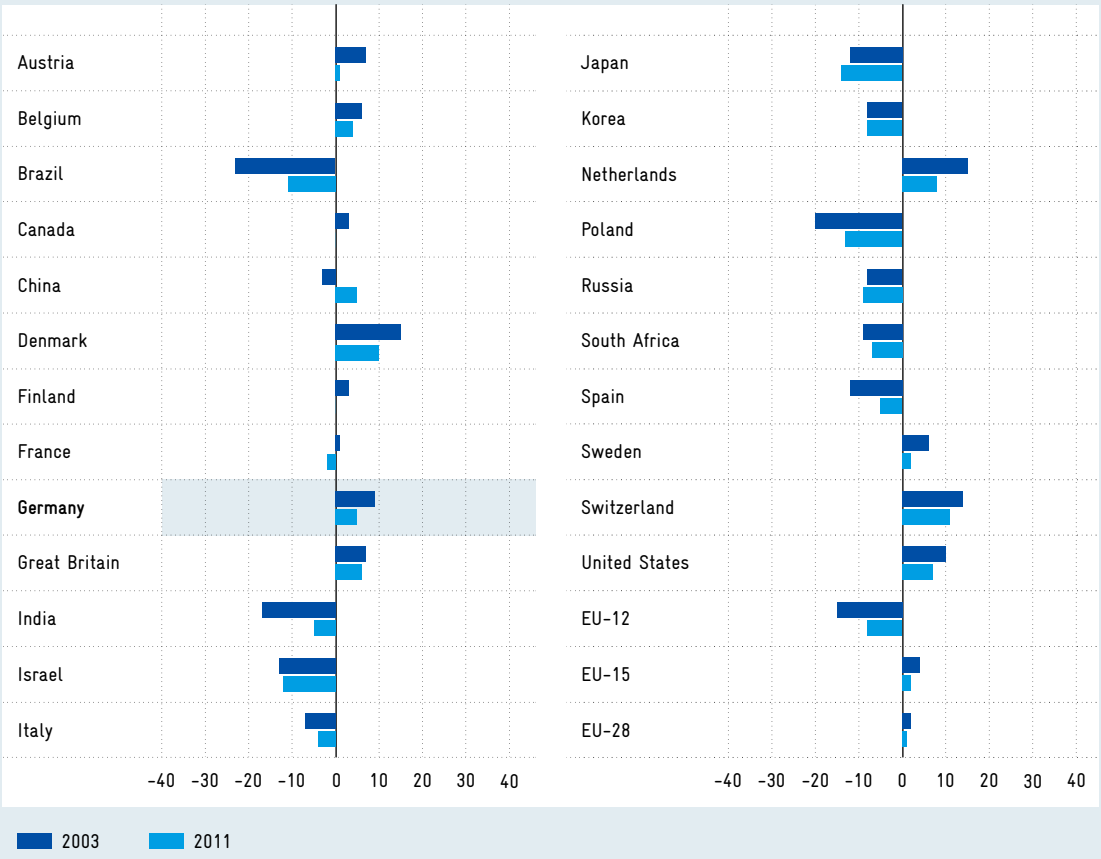
C

C 7-3

Data
Download

Scientific regard (SR) of publications in the Web of Science from selected countries and regions, 2003 and 2011 (index values)

The SR index indicates whether a country's articles are cited on average more frequently or more seldom than other articles in the journals in which they appear. Positive or negative values indicate an above-average or below-average scientific regard. The index is calculated without self-citations.



Source: Web of Science. Research and calculations by Fraunhofer ISI. Fractional counting.

C