

2. TARGETING NEW GROWTH AREAS

2.7. Public-sector biotechnology R&D

Biotechnological techniques, materials and devices may – together with other technologies such as information technology, bioinformatics and nanotechnologies – transform the way a host of products are designed, manufactured and used. This may provide significant opportunities for sustainable growth in both developed and developing countries. It can also lead to far-reaching changes in economic activity and society and to some complex policy challenges.

Biotechnology R&D can be performed in the public sector (government research institutes or higher education institutions), by the business sector, and by the private non-profit sector. Public-sector biotechnology R&D is defined as the sum of government and higher education biotechnology R&D.

Public funding of biotechnology R&D provides a measure of the importance governments place on biotechnology. In some countries, it is substantial.

Data on public expenditure on biotechnology R&D are available for seven countries. Among these, Korea leads with USD 1 446.8 million PPP, followed by Spain (USD 1 022.8 million PPP) and Canada (USD 677.9 million PPP).

The share of biotechnology in all public R&D expenditures is highest in Korea, at 18.7%, followed by Spain (14.8%), Norway (7.7%) and Canada (6.7%).

Data on public biotechnology R&D as a share of total biotechnology R&D expenditure are available for six countries. The share is highest in Poland, at 85%, followed by Spain (67.8%) and Korea (60.9%).

Public funding of biotechnology R&D

The two main types of government programmes to support biotechnology research are direct funding of research by the public sector and direct (research grants) and indirect (tax deductions for research expenditures) funding of research by the private sector. Government funding of public and private biotechnology research can be substantial. Indicators of public funding of biotechnology research include basic data on public R&D spending on biotechnology and intermediate output measures of public biotechnology research, such as patenting by public research institutes and citations of public research papers.

The OECD is working on establishing guidelines for measuring public-sector biotechnology R&D funding. Recommendations for collecting statistics on public R&D funding were beyond the scope of the 2005 version of the *Framework for Biotechnology Statistics*. However, such statistics are seen as highly relevant to policy decisions and represent a future extension of the development of statistical standards.

Source

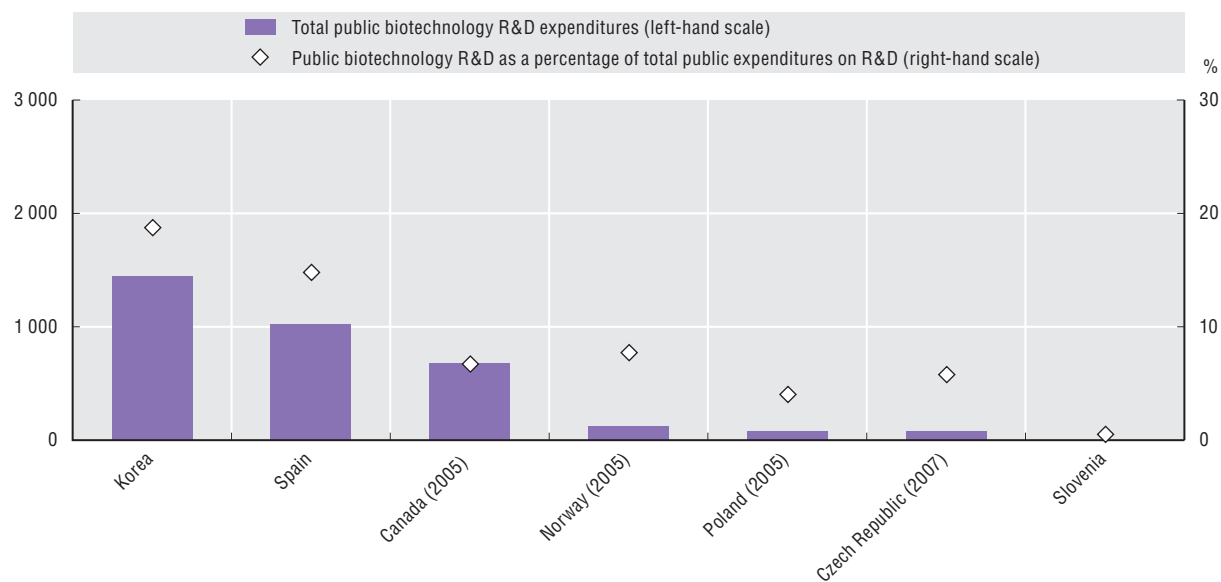
OECD (2009), “OECD Biotechnology Statistics 2009”, OECD, Paris, www.oecd.org/dataoecd/4/23/42833898.pdf.

Going further

OECD (2005), “A Framework for Biotechnology Statistics”, OECD, Paris, www.oecd.org/dataoecd/5/48/34935605.pdf.

Biotechnology R&D expenditures by the public sector, millions of USD PPP, 2006

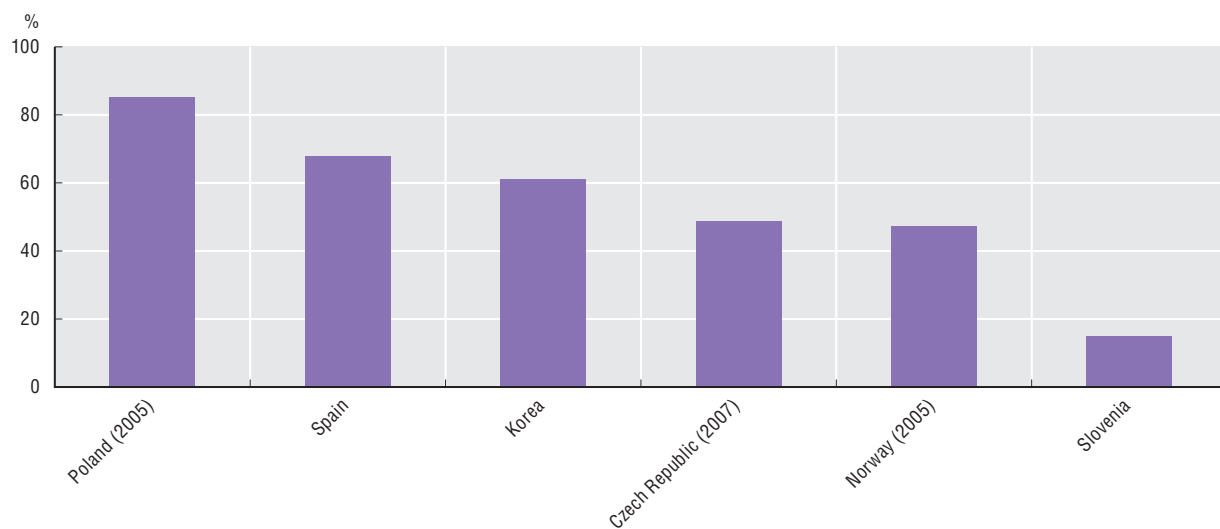
Government and higher education biotechnology R&D



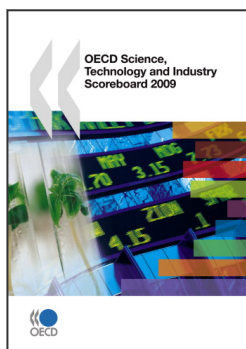
StatLink <http://dx.doi.org/10.1787/743430636172>

Public biotechnology R&D expenditures, 2006

As a percentage of total expenditures on biotechnology R&D



StatLink <http://dx.doi.org/10.1787/743453701535>



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