14. Special feature: Governments' role in promoting R&D

Following the global financial and economic crisis, most OECD member countries developed long-term strategic responses focused on promoting innovation and encouraging research and development (R&D) to restore sustainable growth. As both financiers of R&D activities throughout the economy and also performers of R&D themselves, governments play a key role in supporting a country's innovation system. In addition to directly supporting the innovation efforts of firms via grants or other transfers, governments provide education, training and skills development, and foster knowledge creation and diffusion.

The OECD Innovation Strategy highlighted the importance of publicly funded R&D as one of the key foundations of future innovation. In 2008, OECD central governments invested 1% to 6% of their total budget in R&D activities. Between 2004 and 2008, the share of R&D in total budgets increased in 15 of the 26 countries with available data; Spain had the largest increase during this period. Conversely, this share decreased most notably in Iceland, the United States, France and the United Kingdom over the same period. However, these decreases can also be a result of faster increases in total budgets.

Countries vary widely in terms of the importance of funding by socio-economic objective and by performance sectors, reflecting national priorities and differences in countries' national innovation systems. For instance, the United States, France and the United Kingdom allocate a considerable amount of their government budget appropriations or outlays for R&D (GBAORD) to defence, respectively 57%, 28% and 22% in 2008. However, on average, it is general university funds and economic development which receive the most funds across the OECD.

Although in most OECD countries the private sector is the largest performer of R&D, governments play an important role in conducting R&D. In 2008, the level of R&D performed within the government sector as a share of gross domestic expenditure on R&D (GERD) was relatively high in Poland (35%) and in the Slovak Republic (33%) whilst it was relatively low in Switzerland (1%), Denmark (3%), and Israel and Sweden (both 4%).

Methodology and definitions

Government budget appropriations or outlays for R&D (GBAORD) measure the funds committed by the central government for R&D to be carried out. The data are usually based on budgetary sources and reflect the views of the funding agencies. Total government outlays are current outlays (*e.g.* current consumption, transfer payments, subsidies) and capital outlays. Data refer to the central/federal government to be consistent with the definition of GBAORD. For countries which include regional and local R&D expenditures in their GBAORD estimates (Belgium, Denmark, Germany, Ireland and the United Kingdom), total government outlays include the sub-national aggregates. General University funds (GUF) are the estimated R&D content of government block grants to universities.

Budgetary outlays are different from government expenditures in that they describe governments' intentions. For the majority of countries shown here, figures represent those budget appropriations voted on by parliament for the coming year.

Data on expenditure by sectors of performance are from R&D surveys which are used to construct a national aggregate: gross domestic expenditure on R&D (GERD). GERD is calculated by adding together the intramural expenditures of the four performing sectors (government, higher education, business enterprise, private and non-profit) and includes R&D performed within a country and funded from abroad, while excluding payments for R&D performed abroad.

For details regarding definitions used here, please see *Frascati Manual*, 2002.

Further reading

OECD (2010), *Measuring Innovation: A New Perspective*, OECD Publishing, Paris.

OECD (2010), *OECD Science, Technology and Industry Outlook 2010*, OECD Publishing, Paris.

OECD (2010), *The OECD Innovation Strategy: Getting a Head Start on Tomorrow*, OECD Publishing, Paris.

Figure notes

Data for Greece are for 2007 rather than 2008. Data for Chile and Estonia are not available.

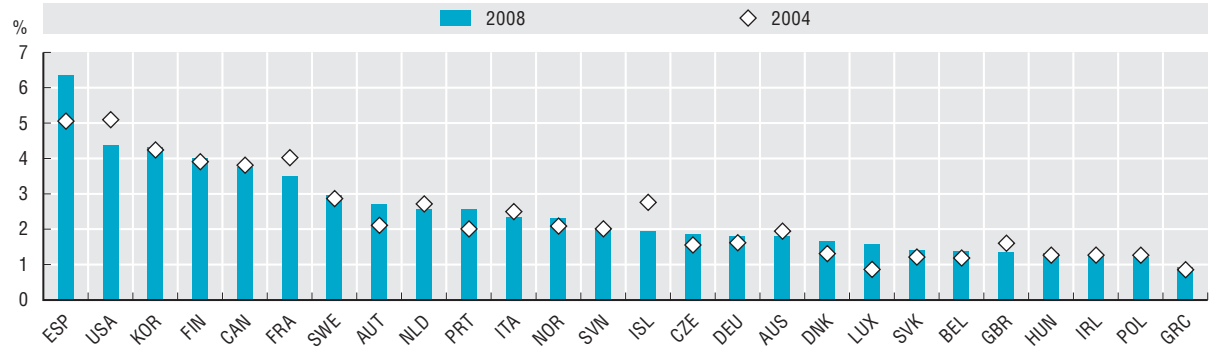
14.1: Data on total government outlays for Australia refer to general government. Data for Japan, Israel, Mexico, New Zealand, Switzerland and Turkey are not available. Data for Korea and Portugal are for 2007 rather than 2008. Data for Canada are for 2006 rather than 2008. Data for Hungary and Italy are for 2005 rather than 2004.

14.2: For Japan, military procurement contracts are excluded from defence GBAORD. In the United States, general support for universities is the responsibility of state governments, and therefore general university funds are not included in total GBAORD. Data for Canada are for 2007. Data for Mexico are for 2006. Data for Israel, Slovenia and Turkey are not available.

14.3: Data for Austria, Germany, Hungary, Japan, Korea, Mexico, New Zealand and Turkey are for 2007.

Information on data for Israel: *http://dx.doi.org/10.1787/888932315602*.

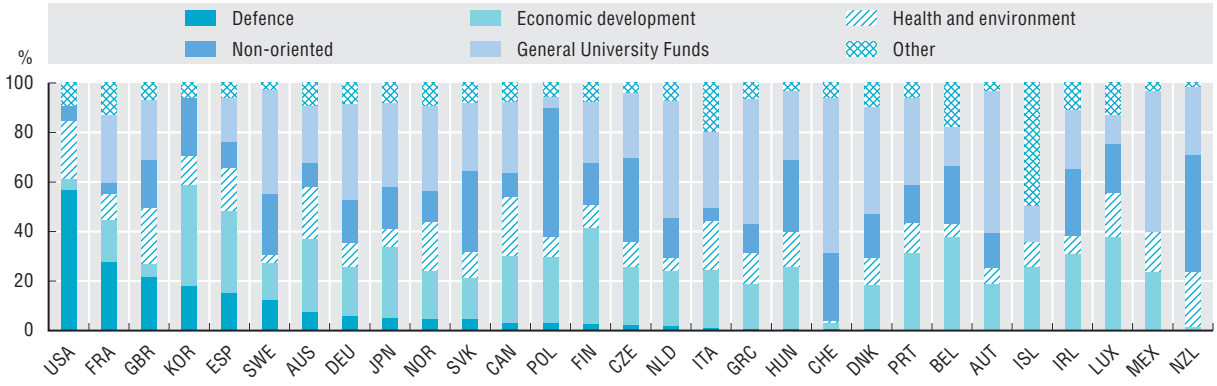
14.1 Government budget appropriations or outlays for R&D as a percentage of total government outlays (2004 and 2008)



Source: OECD (2010), *Measuring Innovation: A New Perspective*, OECD Publishing, Paris. *OECD Research and Development Statistics*, *OECD National Accounts Statistics*, November 2010.

StatLink http://dx.doi.org/10.1787/888932390291

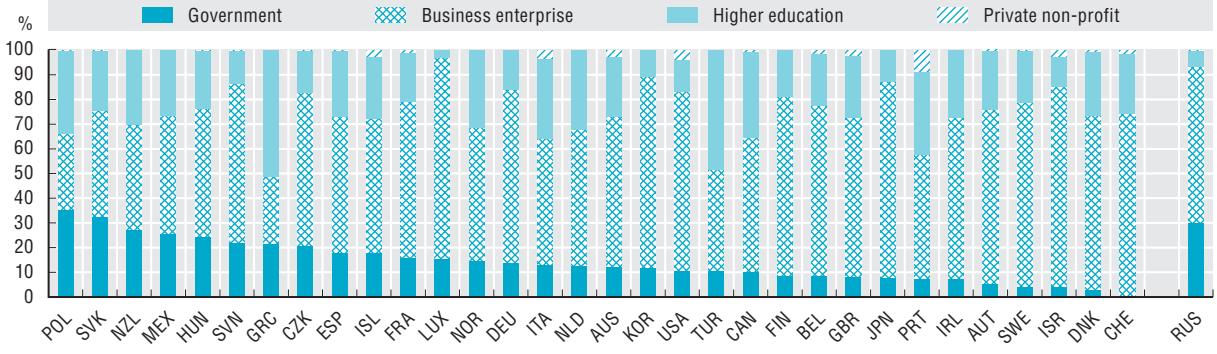
14.2 Government budget appropriations or outlays for R&D by selected socio-economic objectives (2008)



Source: OECD (2010), *Measuring Innovation: A New Perspective*, OECD Publishing, Paris. *OECD Research and Development Statistics*, December 2010.

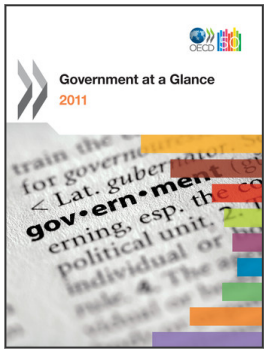
StatLink http://dx.doi.org/10.1787/888932390310

14.3 Share of total gross domestic expenditure on R&D by sector of performance (2008)



Source: *OECD Research and Development Statistics*, December 2010.

StatLink http://dx.doi.org/10.1787/888932390329



From:
Government at a Glance 2011

Access the complete publication at:
https://doi.org/10.1787/gov_glance-2011-en

Please cite this chapter as:

OECD (2011), "Special feature: Governments' role in promoting R&D", in *Government at a Glance 2011*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/gov_glance-2011-20-en