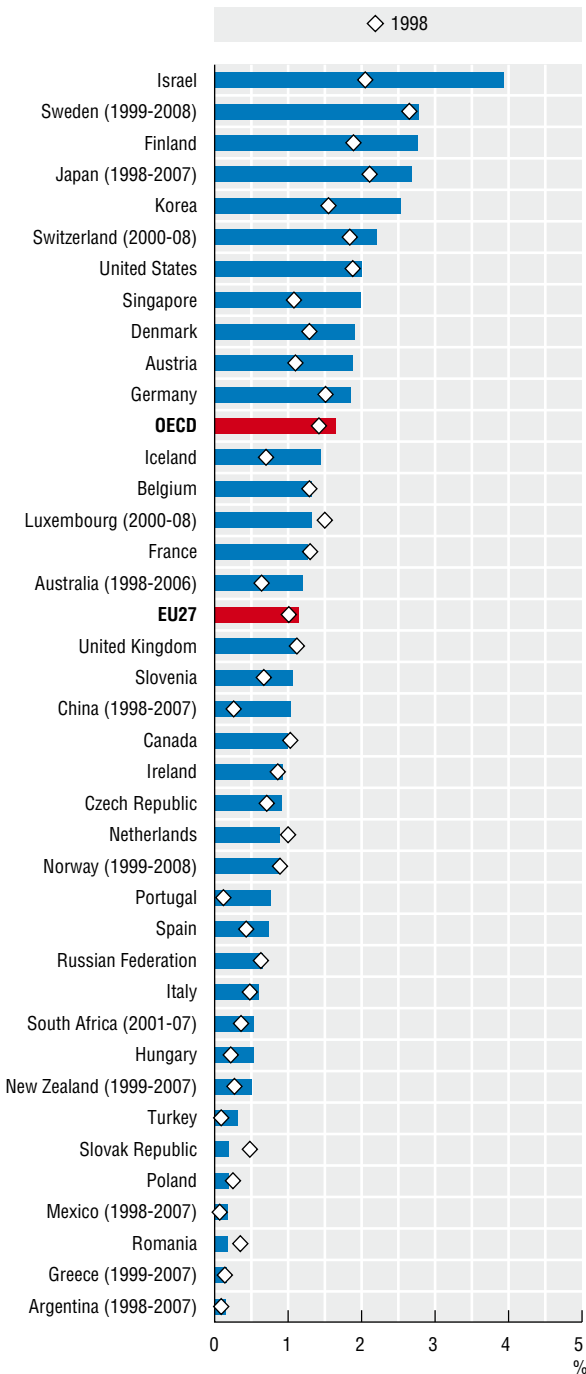


Innovation requires a wide array of public and private investments. However, private investment in R&D and innovation may be below a socially optimal level, mainly because returns are uncertain or the innovator cannot appropriate all the benefits. Governments play an important role in fostering investment in R&D and innovation.

Business enterprise expenditure on R&D, 2008

As a percentage of GDP



Source: OECD, Main Science and Technology Indicators Database, March 2010. See chapter notes.

StatLink <http://dx.doi.org/10.1787/835805814452>

DID YOU KNOW?

22 OECD governments provide fiscal incentives to support business R&D.

(OECD, R&D tax incentives project, 2010.)

Business enterprise expenditure on R&D (BERD) is considered important for innovation and economic growth. It has frequently been used to compare countries' private-sector efforts on innovation. For OECD countries, business R&D accounted for 1.65% of GDP in 2008, slightly more than in 1998 (1.45% of GDP).

Governments can choose among various tools to leverage private-sector R&D. They can offer firms direct support via grants or procurement or they can use fiscal incentives, such as R&D tax incentives. Direct R&D grants/subsidies target specific projects with high potential social returns; tax credits reduce the marginal cost of R&D activities and allow private firms to choose which projects to fund.

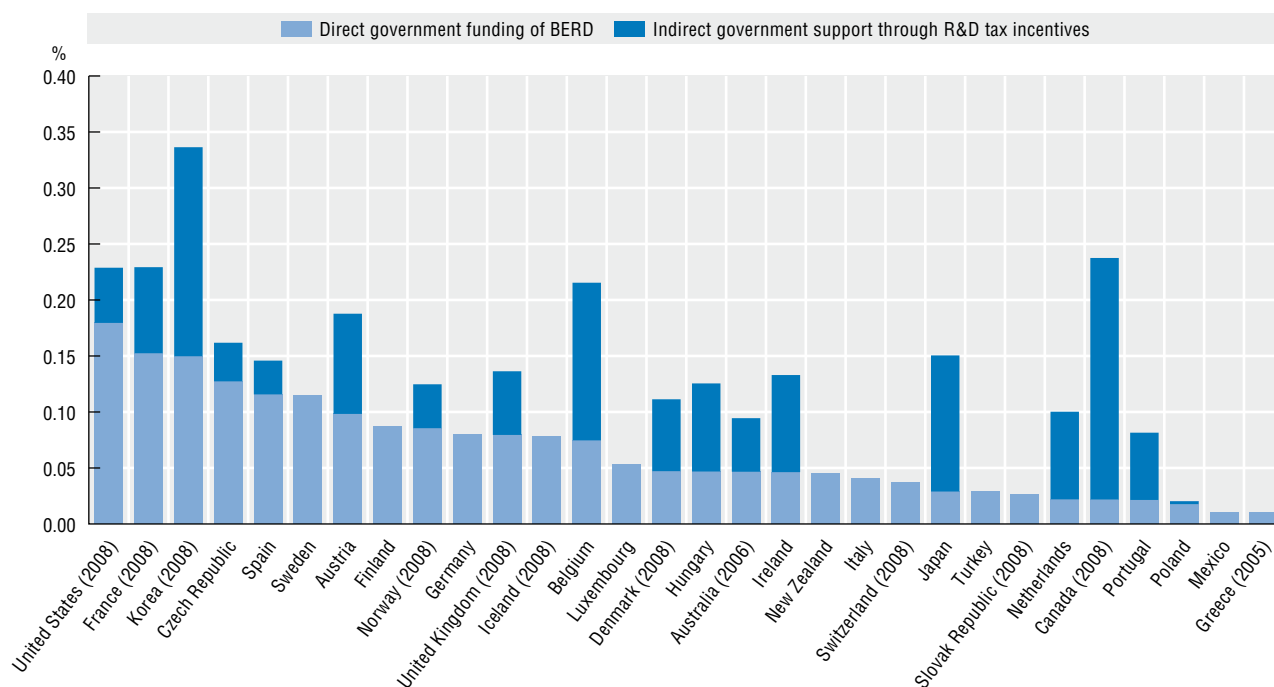
Countries differ in their use of direct and indirect support. The United States (through competitive R&D contracts) and Spain rely more on direct support, while Canada and Japan mostly use indirect support to foster industrial R&D. The optimal balance of direct and indirect R&D support varies from country to country, as each tool addresses different market failures and stimulates different types of R&D. For instance, tax credits mostly encourage short-term applied research, while direct subsidies affect more long-term research. A new indicator of this policy mix has been developed and gives a rather different picture of international comparisons of public support to R&D.

Definitions

Government direct R&D funding includes grants, loans and procurement. Government indirect R&D funding includes tax incentives such as R&D tax credits, R&D allowances, reductions in R&D workers' wage taxes and social security contributions, and accelerated depreciation of R&D capital.

Direct and indirect government funding of business R&D and tax incentives for R&D, 2007

As a percentage of GDP



Source: OECD, based on OECD, R&D tax incentives questionnaire, January 2010; and OECD, Main Science and Technology Indicators Database, March 2010. See chapter notes.

StatLink  <http://dx.doi.org/10.1787/835805814452>

Measurability

Direct government funding of R&D is the amount of business R&D funded by the government as reported by firms. It is the sum of different components (contracts, loans, grants/subsidies) with different impacts on the cost of performing R&D. R&D grants and loans decrease the cost of performing R&D, but contracts (usually awarded through competitive bidding) do not directly affect the cost of performing R&D. More information on the different components is needed to better understand the impact of direct R&D support on firms' performance.

While information on total government direct support is available at both national and international levels, this is usually not the case for R&D-related tax expenditures. Their omission from measures of government-financed R&D leads to incomplete indicators of public R&D support. To gain a more complete view, the OECD developed a questionnaire to collect information on countries' R&D tax incentive schemes and to estimate the cost of such R&D tax incentives.

Countries' R&D schemes differ. Most countries provide fiscal incentives through tax credits or allowances and capital expensing. In Belgium, France, Korea and Spain, additional fiscal incentives are provided through reductions in R&D workers' wage taxes and social security contributions. In some countries, the reported cost of tax incentives differs from the real cost. For instance, Austria has both an R&D tax credit and R&D allowances but only reports the cost of the R&D tax credit. Belgium's tax incentives cover R&D expenditures but also include a deduction for patent income. When possible and to improve international comparability, figures are adjusted to meet the internationally accepted definition of R&D. The OECD is working to compare countries' R&D schemes and methodologies and to assess factors that affect the overall cost (inclusion of sub-national R&D tax credits, differences in firm eligibility, etc.).