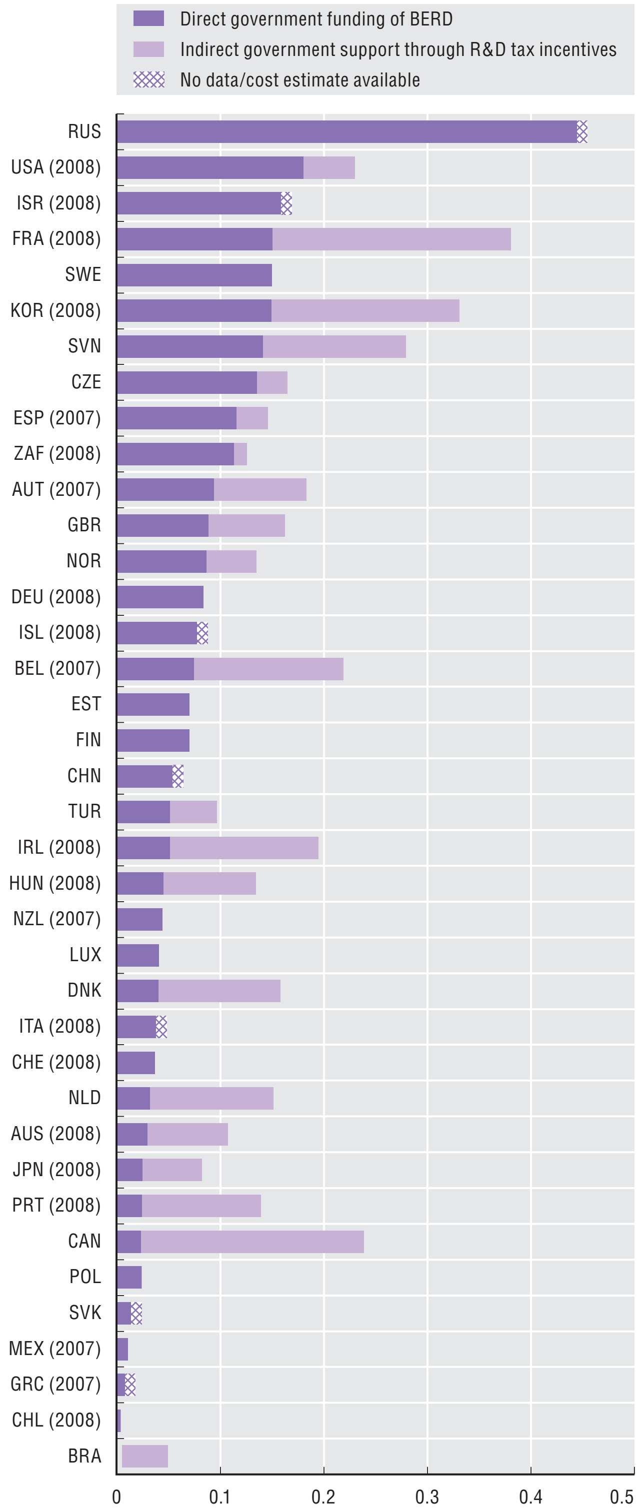
5. Tax incentives for business R&D

Direct government funding of business R&D and tax incentives for R&D, 2009

As a percentage of GDP



Source: OECD, based on OECD R&D tax incentives questionnaires, January 2010 and June 2011; and OECD, Main Science and Technology Indicators Database, June 2011. See chapter notes.

StatLink http://dx.doi.org/10.1787/888932487400

Governments foster business research and development (R&D) with direct support via grants or procurement and fiscal incentives, such as R&D tax incentives. Today, 26 OECD governments use fiscal incentives to promote business expenditure on R&D, up from 12 in 1995 and 18 in 2004. Among those that do not (Germany, Finland, Sweden), some are discussing their introduction. Brazil, China, India, the Russian Federation, Singapore and South Africa also offer incentives for investment in R&D.

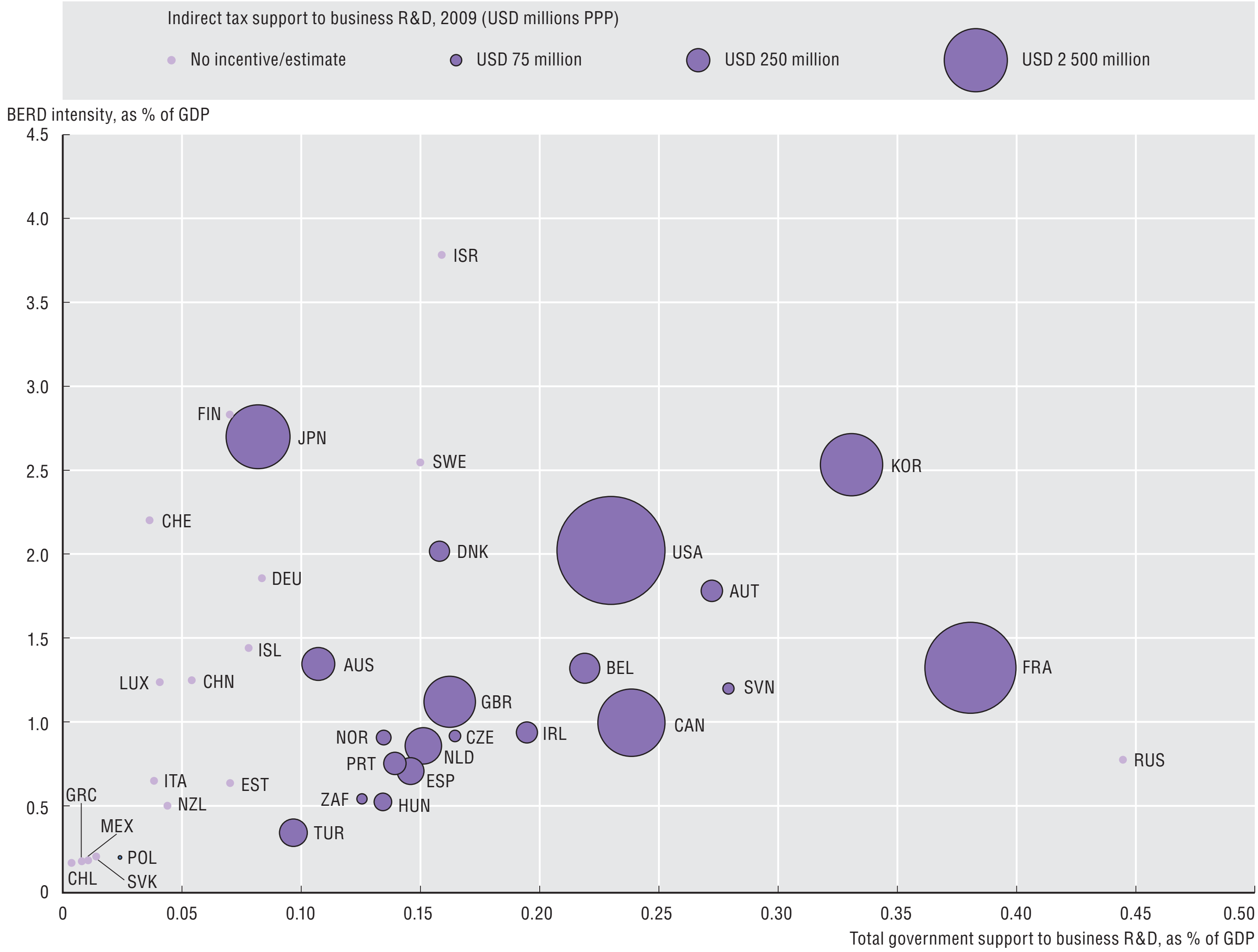
The United States and Spain rely more on direct support, while Canada, the Netherlands, Portugal and Japan mostly use indirect tax support to foster industrial R&D. The balance of direct and indirect R&D support varies from country to country, as each tool addresses different market failures in various ways and stimulates different types of R&D activity. The Russian Federation, France and Korea provide the largest combined support relative to GDP.

The United States, France, Canada, Japan and Korea provide the largest volumes of tax incentives for R&D volumes. Countries that spend relatively more in funding business R&D appear to have a higher business R&D intensities. However, this does not imply a causal relationship and there are some notable exceptions. Finland and Japan have relatively high business R&D intensity compared to their degree of government support, while the Russian Federation and France have high rates of support relative to countries with similar business R&D intensities. Finland and Sweden have high intensities without the use of tax incentives. Identifying the impact of past or future government incentives requires data on policy inputs and research and economic outputs and careful research design to identify the counterfactual against which to compare observed performance.

Definitions

Government tax incentives for R&D include R&D tax credits, R&D allowances, reductions in R&D workers' wage taxes and social security contributions, as well as accelerated depreciation of capital used for R&D. These tax rebates are excluded from the definition of direct government funding of R&D captured in estimates of government budget appropriations or outlays for R&D (GBAORD). The value of remitted taxes is also excluded from reported government funding of firms' R&D intramural expenditures, which only include direct transfers of R&D funds. Some governments also provide tax incentives in the form of favourable treatment of income generated through the exploitation of intellectual property that may be due to previous R&D activities. These incentives are not included.

Business R&D intensity and government support to business R&D, 2009



Source: OECD, based on OECD R&D tax incentives questionnaires, January 2010 and June 2011; and OECD, Main Science and Technology Indicators Database, June 2011. See chapter notes.

StatLink http://dx.doi.org/10.1787/888932487419

Measurability

Most countries provide fiscal incentives through tax credits or allowances and capital expensing. Corporate taxation is typically the main conduit, but Belgium, Denmark, France, Korea, the Netherlands and Spain also provide reductions in R&D workers' wages, taxes and social security contributions. Sub-national tax incentives for R&D are generally not captured in the national sources, as in US states and Canadian regions. The cost of tax incentives is estimated and reported in different ways. The experimental nature of these indicators needs to be recalled when comparing them to other R&D indicators. For example, when comparing to business intramural expenditures, eligible R&D expenditures can differ; R&D tax incentives can be used by companies in some circumstances to fund intramural or extramural R&D, some of which can take place in other sectors. In line with *Frascati Manual* guidance, tax incentives are excluded from the definition of government-funded BERD to minimise the risk of double counting. Administrative data from government R&D budgets (GBAORD) share features with tax incentive data but sectoral breakdowns are rarely available and cannot be used to estimate support for business R&D to compare with tax incentive data. The OECD is working on improving the comparability of these statistics for use in policy analysis.

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