SWEDEN

Sweden's above-average growth in GDP per capita in recent years has been partly driven by technological change. At 3.73% of GDP in 2006, Sweden leads OECD countries in terms of R&D intensity. The business sector contributes the lion's share: business expenditure on R&D accounted for 2.79% of GDP in 2006, compared to the OECD average of 1.56%. Higher education R&D spending as a share of GDP is high (0.76%) and it performs around 20% of total R&D, on a par with most OECD countries. The government institute sector is smaller and performs 4.5% of R&D.

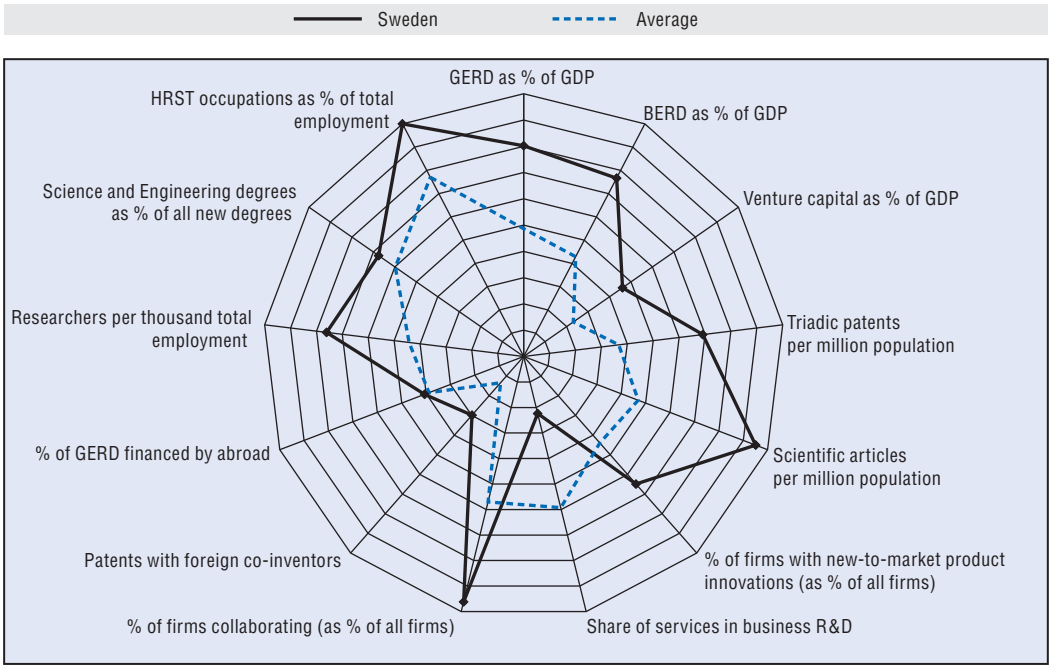
Sweden has 12.6 researchers per 1 000 total employment, second only to Finland, and 68% work in the business sector. Sweden also has one of the highest graduation rates in advanced research programmes (PhD or equivalent) among OECD countries; however, the number of science graduates per 100 000 employees is just below the OECD average and behind Finland and Australia.

Scientific publications increased since the 1990s to reach 1 109 articles per million population in 2005, placing the country second only to Switzerland. The output is also of high quality; in 2003 Sweden ranked fourth worldwide in terms of citations of scientific literature.

In contrast, Sweden has been losing ground in patenting, especially as a share of population, although its share of triadic patenting remains high. Industry-science relations between higher education institutions and firms are good judging from Community Innovation Survey data, but they are dominated by larger firms, in line with the country's industrial structure. While manufacturing firms generally tend to be more innovative in process innovation than services, the Swedish services sector is much less innovative in this respect than services sectors in other OECD countries. Reliance on large multinational firms (foreign affiliates account for more than 40% of business R&D), combined with a low rate of new firm creation, may hamper Sweden's ability to seize new opportunities in emerging industries.

The government has initiated a number of public inquiries in preparation for a 2008 bill on research in which support for innovation will be given importance. Among the issues currently under discussion are: granting universities more autonomy; allocation of funding based on quantitative and qualitative indicators; government support for basic research of strategic importance to industry; and support to innovative start-ups and small and medium-sized firms. In line with the general thrust for regulatory reform, the government is also placing more emphasis on the evaluation of the quality of research and innovation programmes and on assessing their socio-economic impacts.

Science and innovation profile of Sweden



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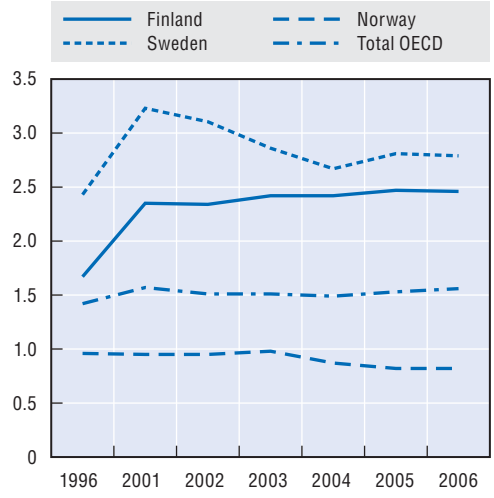
Business expenditure on R&D as a percentage of GDP, 1996-2006



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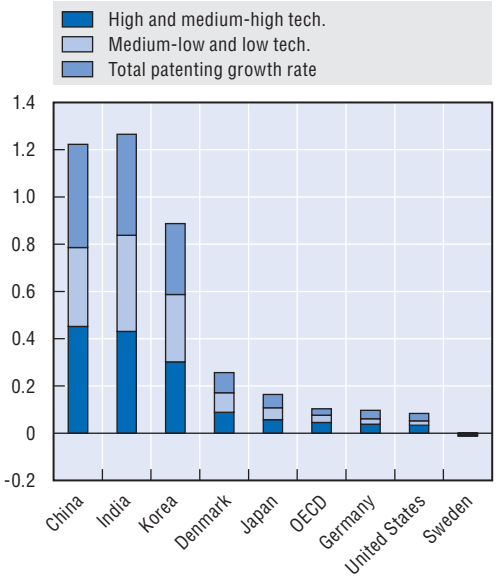
Annual growth in patenting, Patent Co-operation Treaty filings 1997-2004

Percentage



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