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## Ireland

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## IRELAND

Ireland is a small, modern, trade-dependent economy. Its innovation system has been influenced by the openness of its economy and the extensive involvement of foreign multinationals. The global financial crisis severely affected the Irish economy and a recession was recorded for the first time in more than a decade.

Gross expenditure on R&D (GERD) increased to 1.4% of GDP in 2008. Between 2000 and 2008 GERD grew strongly in real terms at a compound annual rate of 7.6%, but because GDP grew relatively strongly for most of the period, GERD intensity increased slowly. In 2008, 49% of GERD was financed by industry, down from 58% in 2005; government funded 33%. Business expenditure on R&D (BERD) in 2008 was 0.9% of GDP. Venture capital was an above-average 0.13% of GDP in 2008, with most funds spent on early development and expansion.

On balance, Ireland performs well on innovation indicators. In 2008, it had 19 triadic patents per million population and a country share of 0.17% in triadic patent families. While these levels were low, it had a comparatively high 1 065 scientific articles per million population. In 2004-06 almost one in five firms introduced new-to-market innovation and 36% of firms undertook non-technological innovation.

Ireland's economy is closely integrated with the international economy. The manufacturing trade balance – an indicator of competitive advantage – was 5% in 2007, and during the decade to 2008, high- and medium-high technology exports increased by 7-10% a year. In 2007, foreign affiliates accounted for 80% of manufactur-

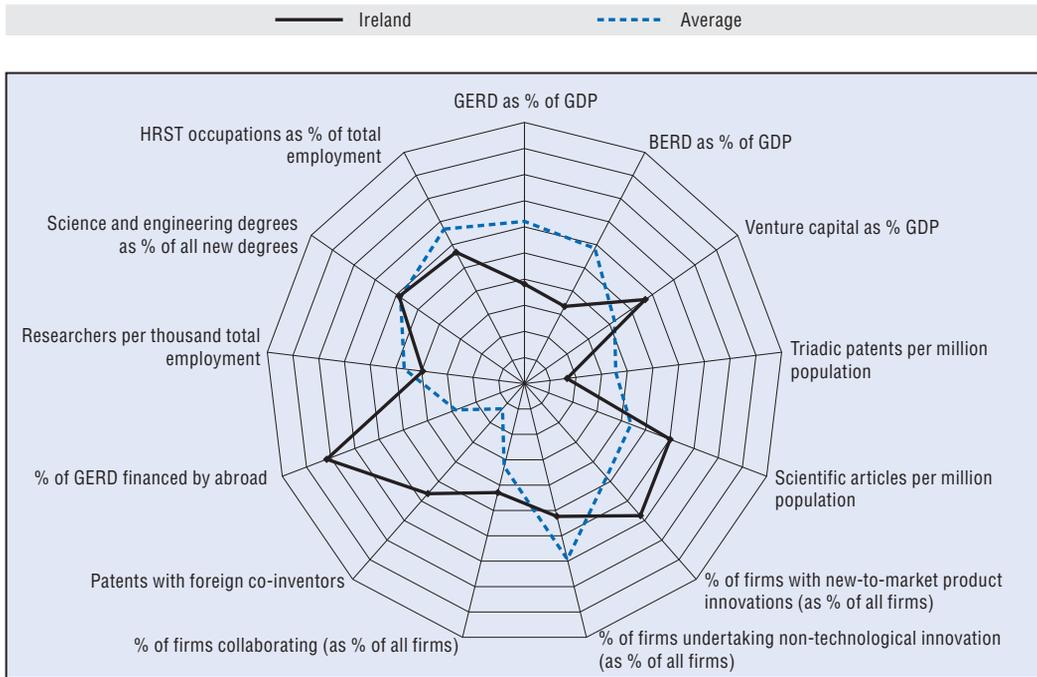
ing turnover and 60% of industrial research is tied to foreign affiliates. Around 13% of firms collaborated on innovation activities during 2004-06 and a third of Patent Cooperation Treaty (PCT) patent applications had foreign co-inventors. In 2008 a significant 16% of GERD was financed from abroad.

Human resources in science and technology (HRST) are not particularly strong. Researchers grew at a compound annual rate of 5.7% between 1998 and 2008, but in 2008, they only accounted for six per thousand employment, slightly below the OECD average. HRST employment was 24% of total employment, also below the average of 28%, but science and engineering degrees were 21% of new degrees, very close to the OECD average.

Ireland experienced strong economic growth for more than a decade, with GDP rising by an average annual 5.5% between 2001 and 2007, before contracting by 3% in 2008 and by nearly 8% in 2009. The unemployment rate increased from 4.6% in 2007 to 11.6% in 2009. Labour productivity increased consistently until 2007, but declined by 0.7% in 2008. Relative to the United States, GDP per capita was 88% in 2008.

The Irish government's vision, contained in its Strategy for Science, Technology and Innovation (SSTI) 2007-13, is that Ireland is to be internationally renowned for research excellence by 2013. It also aims to be a leader in generating and using new knowledge for economic and social progress. In June 2009 an SSTI indicators framework of 49 indicators was agreed in order to monitor its implementation.

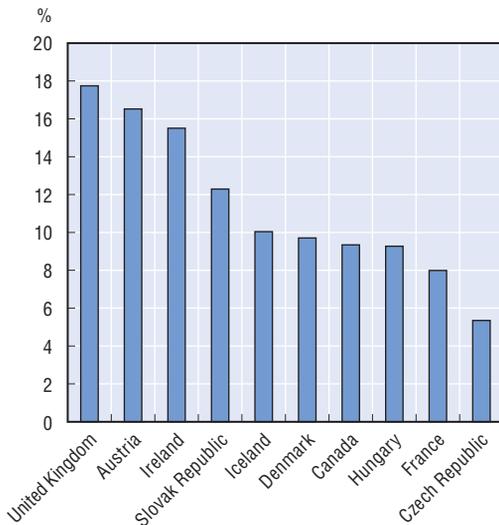
### Science and innovation profile of Ireland



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### Gross expenditure on R&D financed from abroad

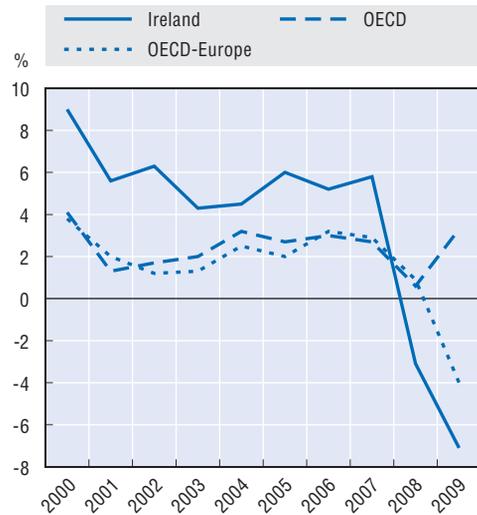
As a percentage of total GERD, 2008



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### Gross domestic product

Annual growth rate, 2000-09



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