POLAND

Economic growth accelerated in 2007, led by strong domestic demand and the process of convergence with the EU. The government is undertaking structural reforms in labour markets, education and tax policy to help improve productivity and industrial competitiveness.

Poland invests little in R&D (0.56% of GDP in 2006), of which 57.5% is financed by the public sector and only one-third by the business sector. This low R&D intensity reflects a relatively low level of GDP and an industrial structure heavily weighted towards low technology, as well as a low level of R&D in foreign affiliates of multinational firms. It also reflects weaknesses in the framework conditions for innovation and a public research system that is insufficiently linked to industry.

Public funding of research is spread too thin. Many specialised government research institutes lack sufficient critical mass, which reduces the impact of their scientific output. Moreover, most public research funding is unconditional; only 16% is allocated on a competitive basis.

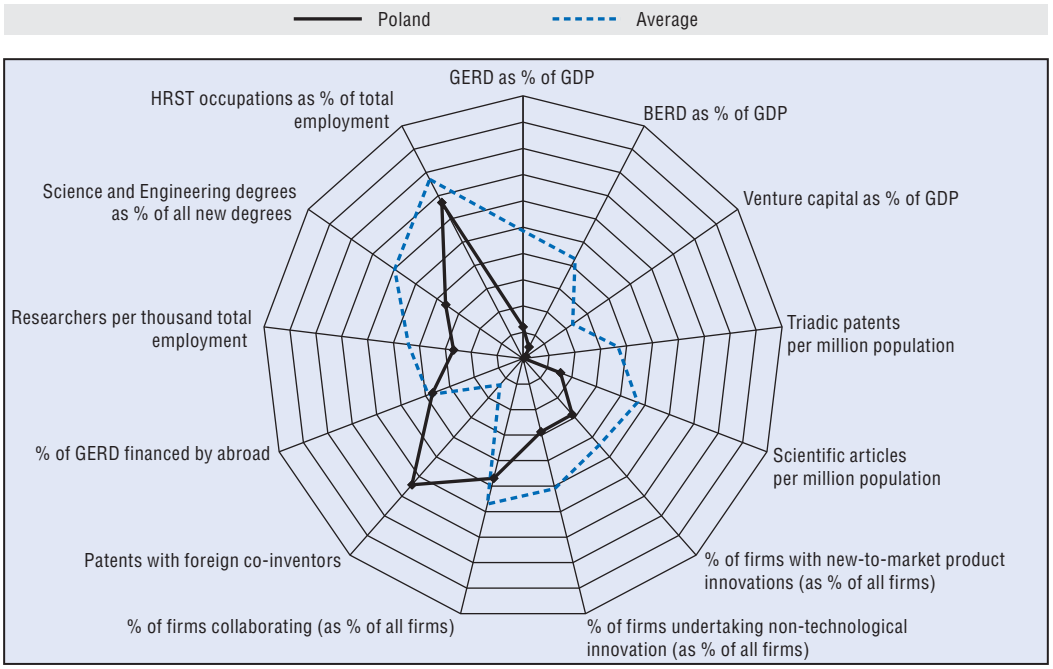
Researcher numbers are quite low (4.4 per 1 000 total employment in 2006) and most work in the public sector. The number of business researchers has declined in recent years, and growth in employment in the broader population of human resources for science and technology has been modest. The supply and quality of higher education graduates is also an issue, especially given the emigration of young talent.

A 2007 OECD report pointed to the need to strengthen the science base and to raise quality through more competitive funding. Incentives for business R&D and innovation also need to be boosted. While Poland can benefit from adopting existing technologies, its longer-term ability to shift production up the value chain will depend on its capacity to absorb more advanced technologies, which may require a stronger capacity for knowledge creation.

The government's current policy is included in the National Development Strategy 2007-15 and the National Strategic Reference Framework 2007-13 (or "innovation strategy") which aims to shift the policy focus away from basic research and towards technology uptake and innovation. The main directions of innovation policy are: *i)* human resources for a modern economy; *ii)* research for the economy; *iii)* intellectual property for innovation; *iv)* capital for investment; and *v)* infrastructure for innovation. In 2008, in order to co-ordinate and manage innovation policy, the government established a high-level science and innovation council and made the Polish Agency for Enterprise Development responsible for implementing innovation policy. In 2007, a National Centre for Research and Development was established to manage and implement R&D programmes of key importance to the economy and society.

A key instrument of the national strategy is the Operational Programme "Innovative Economy 2007-13", which will mobilise some EUR 7 billion of EU regional development funds and EUR 1.2 billion from national public sources and the business sector to promote high-quality research centres and research infrastructure, and to provide venture capital funds for small and medium-sized enterprises and new technology-based firms.

Science and innovation profile of Poland



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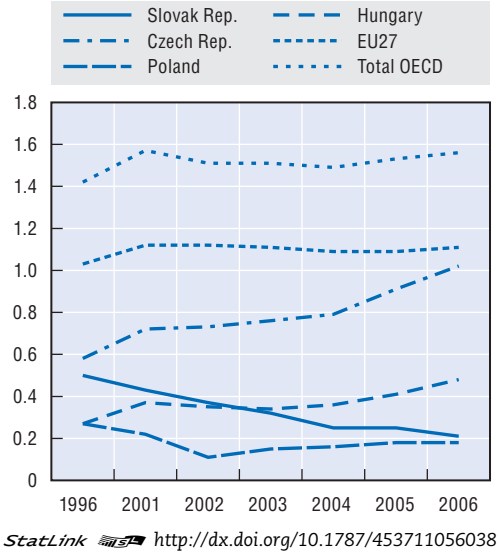
Business expenditure on R&D as a percentage of GDP, 1996-2006



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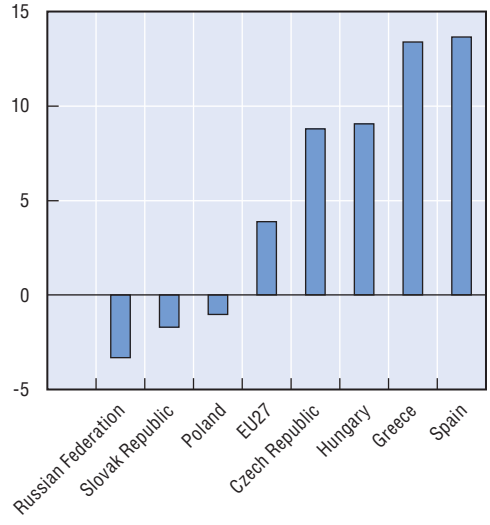
Growth in the number of business researchers, 1996-2006

Average annual growth (%)



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