

KOREA

Korea has performed exceptionally well over the past decades. Innovation – with the adoption and adaptation of imported technologies – played an important role in its efforts to catch up with the leading OECD economies. However, to maintain its strong productivity performance and move more towards being a technological leader, Korea must address some challenges.

Korea's development trajectory has shaped its innovation system in important ways. Owing to its *chaebol*-driven industrialisation process, Korea has very large firms and a strong focus on information and communication technologies and automobiles. In the public sector, universities tend to play a minor role in R&D, as they have historically been teaching institutions. There is little collaboration between small and medium-sized firms (SMEs) and the public sector and relatively few international linkages (*e.g.* very little cross-border involvement in patenting). As a result, the R&D landscape is dominated by the indigenous private sector.

R&D expenditure has grown rapidly in recent years and Korea is now among the OECD leaders in terms of R&D intensity. Gross domestic expenditure on R&D was over 3.2% of GDP in 2006. The number of researchers is also above the OECD average. Business enterprises account for most of the R&D expenditure, financing 75% and performing 77% in 2006. The dominance of the business sector in R&D, with its natural emphasis on development rather than on basic research, has led the government to increase its spending on R&D and to set targets designed to increase basic research.

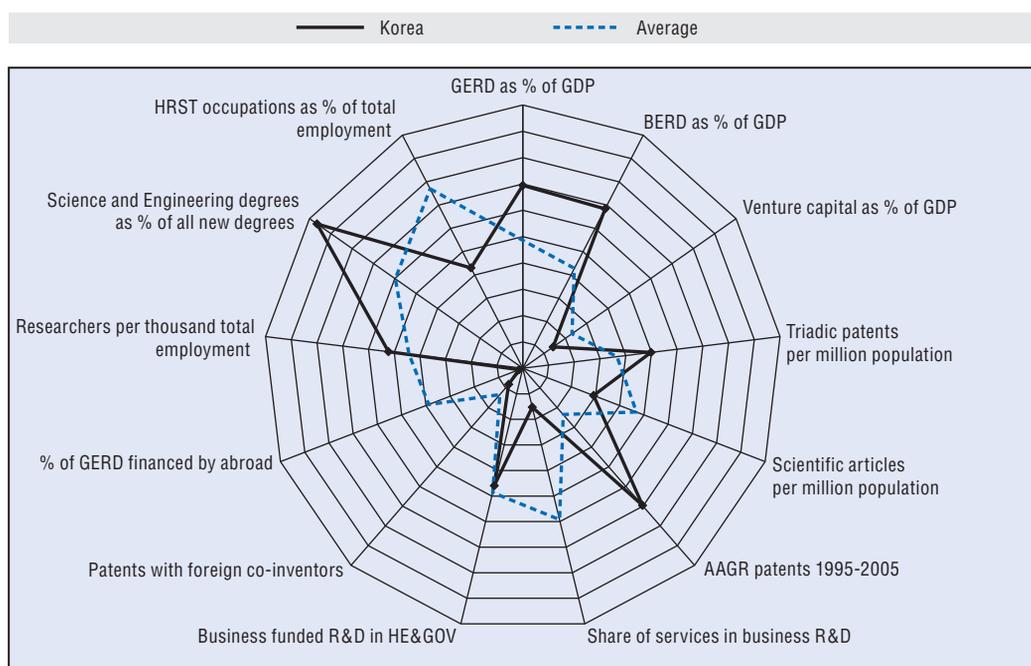
Outputs from R&D investment indicate a mixed performance. The number of triadic

patent families has grown immensely in the last decade and is now well above the OECD average when adjusted for population. However, most of the patents are in low-technology industries, and there are questions about low levels of patent exploitation. The output of scientific articles, while growing, is still well below the OECD average when adjusted for population (although language may be an issue here). In addition, Korea's services sector accounts for a small share of business R&D and for little in-house product or process innovation. With services now accounting for more than 50% of GDP, improving innovation in services is crucial.

Innovation and creativity have been a policy focus for some time. Various ministries are involved in science, technology and innovation policy, and recent initiatives have attempted to bring greater coherence to the system. For example, the R&D Total Roadmap seeks to set the public research base on a strategic path. Korea is also attempting to broaden the spectrum for future growth by funding biotechnology, nanotechnology and other promising areas.

The key challenge for Korea is to create an innovation system that enables its leading firms to remain at the world technology frontier, while encouraging greater innovation in other sectors of the economy. Continued support for the development of capabilities and research infrastructure in universities and more strenuous efforts to diffuse knowledge from the public to the private sector will be important. It is also essential to ensure that the broader regulatory environment supports innovation.

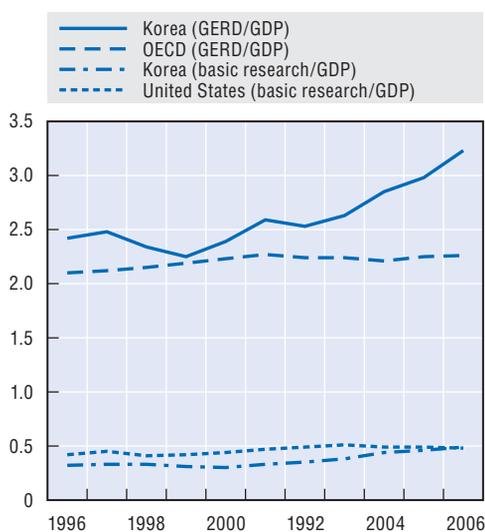
Science and innovation profile of Korea



StatLink <http://dx.doi.org/10.1787/453238558133>

Gross expenditure on R&D and basic research, 1996-2006

As a percentage of GDP

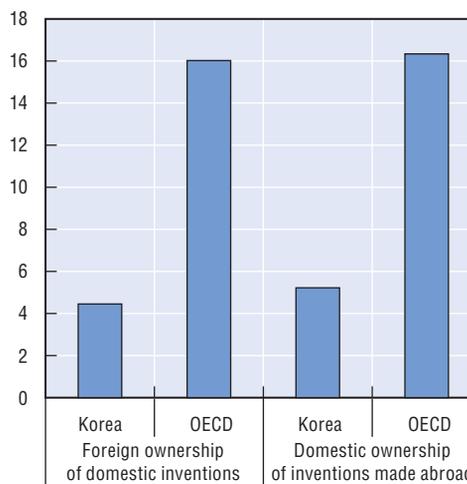


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Internationalisation of R&D, 2001-04

Cross-border involvement in patenting

Share of patent applications to EPO (%)



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