From:
OECD Science, Technology and Industry Outlook 2008

Access the complete publication at:
http://dx.doi.org/10.1787/sti_outlook-2008-en

Australia

Please cite this chapter as:

OECD (2008), "Australia", in *OECD Science, Technology and Industry Outlook 2008*, OECD Publishing.
http://dx.doi.org/10.1787/sti_outlook-2008-4-en

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

AUSTRALIA

The Australian innovation landscape displays a number of notable strengths. Its scientific publications are well above average: 780 scientific articles per million population (over 2% of world publications), and 16th worldwide for publication impact. Australia also has a strong skills base. Human resources for science and technology represent 38% of the labour force and in 2004 it had 8.4 researchers per 1 000 total employment, because of strong employment of researchers in the higher education sector.

Gross domestic expenditure on R&D (GERD) rose to 1.78% of GDP in 2004. Most of the increase is due to business sector investment. Growth in the higher education sector was modest and government R&D expenditure fell in absolute terms. Business expenditure on R&D (BERD), at 1.04% of GDP in 2005, was below the OECD average of 1.53%. The business sector financed around 53% of GERD in 2004, and 41% of BERD was performed by SMEs. The services sector accounts for a higher proportion of total business R&D (around 41% in 2003) than in most OECD countries.

More broadly, Australia's economy has benefited from the global commodities boom, and has grown strongly in recent years. Since 2000, GDP growth has averaged around 3% a year in real terms and in 2008 the unemployment rate has fallen to around 4%, its lowest level since the 1970s. Productivity growth, measured by change in GDP per hour worked, has been above the OECD average, and combined with labour utilisation this has resulted in good growth in GDP per capita in recent years.

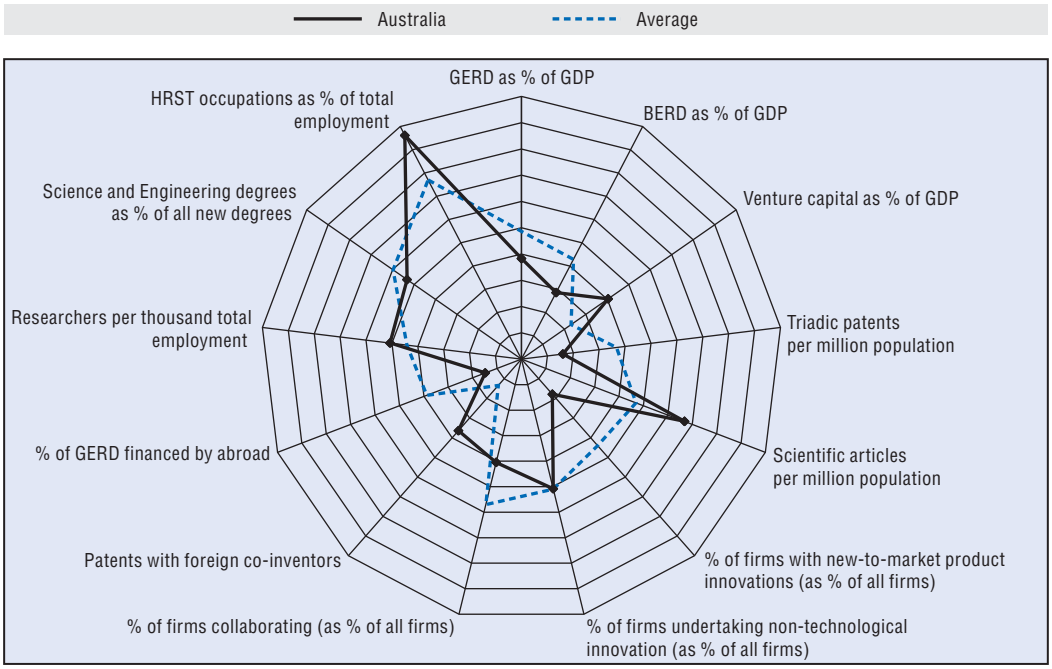
At 19 per million population, Australia is not a strong performer in terms of triadic patent families. Although patenting has increased in recent years, it accounted for just 0.76% of the world share of triadic patent families in 2005. The low level of patenting and BERD reflects Australia's structural characteristics, with large resource and agricultural sectors and a relatively small manufacturing sector. Linkages are weak, with only around 9% of innovating firms co-operating with an external partner for their innovation activities; only a small number and proportion of patents are developed with co-inventors.

However, around 41% of Australia's firms are technologically innovative. Most innovation is incremental, with only 7% of SMEs and 12% of large firms introducing new-to-the-market product innovations. Non-technological innovation was undertaken by 31% of firms.

The newly elected government has outlined a framework for innovation policy to stimulate performance across the economy. The recently created Department of Innovation, Industry, Science and Research has announced a review of Australia's innovation system to identify gaps and weaknesses in the system and develop proposals to address them.

Looking ahead, key topics of policy debate include developing an integrated approach to science and innovation as well as improving links with global research and innovation systems. The long-term issue is to sustain economic performance and competitiveness while addressing social and environmental challenges.

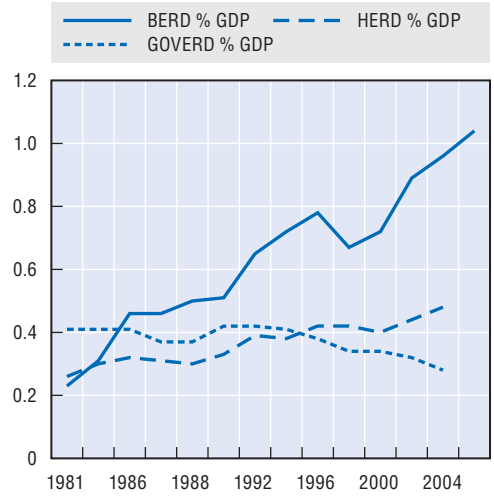
Science and innovation profile of Australia



StatLink http://dx.doi.org/10.1787/451718030211

R&D by sector of performance

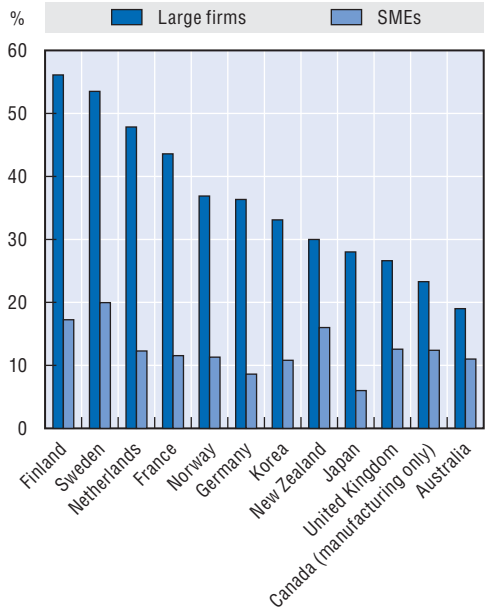
As a percentage of GDP



StatLink http://dx.doi.org/10.1787/451763767450

Firms collaborating in innovation activities, by size, 2002-04 (or nearest available years)

As a percentage of all firms



StatLink http://dx.doi.org/10.1787/451782035483

ISBN 978-92-64-04991-8
OECD Science, Technology and Industry
Outlook 2008
© OECD 2008

Chapter 3

Science and Innovation: Country Notes

This chapter complements Chapters 1 and 2 by providing an individual profile of the science and innovation performance of each OECD country, as well as observers to the OECD Committee on Science and Technology Policy (Brazil, Chile, China, Israel, Russia and South Africa), in relation to their national context and current policy issues. The graphs enable countries to see some of their relative strengths and weaknesses as compared to other countries' performance.

The common indicators in the first (radar) graphs were selected on the basis of current policy issues. They focus on research and innovation inputs, scientific and innovation outputs, linkages and networks, including international linkages, and human resources. A standard set of indicators is used; however, when data are not available, alternative indicators may be applied. The annex provides a full list and description of the indicators, methodological notes and data sources.

For each indicator in the radar graph, the country with the maximum value is set at 100, taking into account all OECD and non-OECD countries with available data. The average is calculated by taking into account all OECD countries with available data (non-OECD countries are excluded from the average). The annex provides further details.

The radar graphs are accompanied by country-specific figures that further illustrate national characteristics and underpin policy-specific comments. The selection of comparator countries in these graphs aims to highlight the general position of the focal country and, in some instances, data on other countries may also be shown.

Table of Contents

Boxes

Tables

Figures