



Australian Innovation System Report 2014

Highlights

The 2014 report examines various aspects of innovation as a driver of competitiveness.

Innovation is the *implementation of a new or significantly improved product (good or service), process, new marketing method or a new organisational method in business practices, workplace organisation or external relations.*

Business innovation is about implementing change in a market and staying competitive. The proportion of employing businesses that were innovative was 42 per cent in 2012-13. In that same year these innovative businesses accounted for a 70 per cent share of the economy's employment, capital expenditure and business income.

Australia's small and medium sized businesses appear innovative by OECD standards (ranking 5th). This is a positive for our domestic competitiveness. Australia's large businesses, which do almost all our exporting, are not innovation leaders by international standards (ranking 21st in the OECD). *New to market* innovation, is very important for international competitiveness. However Australian businesses of all sizes perform poorly on *new to market* innovation compared to other countries and this situation is getting worse not better.

Australia has several, mostly resource, industries that are internationally competitive and high innovation capability, including high R&D intensity, is found in these sectors. However, the number of these internationally competitive industries is low compared to other comparator countries and our export sector is now less diverse than it was fifteen years ago.

Australian industry needs to invest in innovation across all domestic and exporting sectors as one of several key strategies to lift long term total factor productivity and ultimately maintain our high standard of living. The scale and impact of innovation appears to be hampered by a poor management culture of innovation and collaboration, and shortages in a range of skills.

To read the report in full, please visit www.industry.gov.au/OCE/innovationreport

Innovation enhances businesses performance

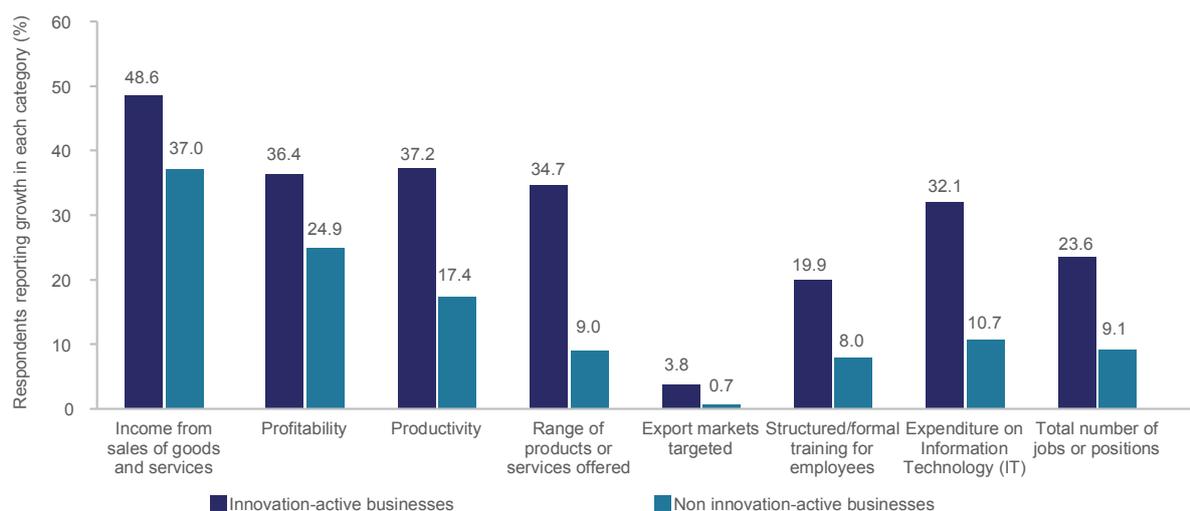
Innovation leads to greater wealth creation and employment growth, more efficient production and greater market diversity economy-wide. Chart 1 shows that, compared with businesses that don't innovate, innovative Australian businesses are:

- ▶ 31 per cent more likely to increase income and 46 per cent more likely to report increased profitability;
- ▶ Twice as likely to export and five times more likely to increase the number of export markets targeted;
- ▶ Twice as likely to report increased productivity, employment and training;
- ▶ Three times more likely to increase investment in ICT; and
- ▶ Three times more likely to increase the range of goods and services offered.

These survey results have been consistent across all business sizes and sectors suggesting that innovation is an effective tool to grow a competitive business. In fact the data shows that there is a significant positive association between innovation and recorded sales performance. Between 2009-10 and 2011-12, median annual sales growth for non-innovators was \$4,245. By contrast persistent innovators (those that innovated in all three years) had the highest median annual sales growth of \$243,764. Controlling for size, data shows that between 2007-08 and 2011-12, average gross profit per employee was \$20,400 for innovative businesses. This was 47 per cent higher than businesses that don't innovate at \$13,900.

Business innovation and export activity are also tightly coupled across all business ages and sizes. The more a business innovates the more likely it is to be exporting. In 2011-12 median export income was \$20,142 for innovative SMEs and \$1,874 for SMEs that didn't innovate.

Chart 1: Innovation increases business performance, 2006–07 to 2011–12



Note: Averages and standard errors are generated from year-on-year variation in each indicator by the Australian Government Department of Industry.

Source: ABS (various) Selected characteristics of Australian business, 2006–07 to 2011–12, cat. no. 8167.0, ABS, Canberra.

Australia performs relatively poorly on ‘new to market’ innovation

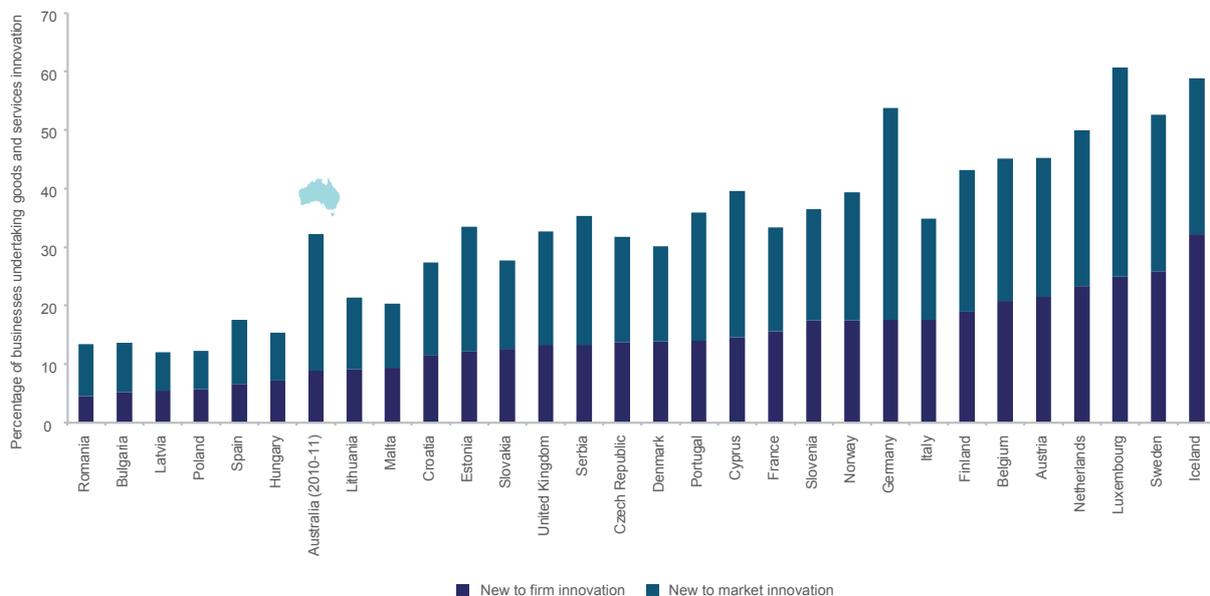
At a minimum an innovation must be new to business. Higher degrees of novelty can be broadly categorised as *new to market* when the business is the first to introduce the innovation to a market. New to market innovation can boost Australia’s export diversity and our overall level of competitiveness. *New to market* innovation helps capture new markets, increases market share and facilitates global supply chain participation.

New to market innovation has a positive association with business sales. SMEs introducing new to market innovations have 22 to 47 per cent higher average annual sales compared to their new to business counterparts. Large firms show a greater difference. Large firms introducing new to market innovations have 39 to 68 per cent higher average annual sales compared to their new to business counterparts. Australian *new to market* innovators are up to eight times more likely to export than non-innovators.

Chart 2 shows that Australia’s overall rates of innovation are moderate compared to a range of European Union (EU) countries. Generally we rank poorly against EU countries on new to market innovation. Australia is primarily a nation of adopters and modifiers operating behind the innovation frontier.

Australia has also experienced an absolute decline in *new to market* product innovation since the early 2000s. The degree of *new to market* product innovation varies considerably across different business sectors and sizes in Australia. Manufacturing, *Wholesale trade, Information, media and telecommunications* and *Professional, scientific and technical services* perform well above the national average in absolute terms.

Chart 2: Country comparison of innovation novelty, 2010



Sources: Eurostat, Community Innovation Survey 7 (2010); and ABS (2011) Customised report based on the Business Characteristics Survey data commissioned by the Australian Government Department of Industry.

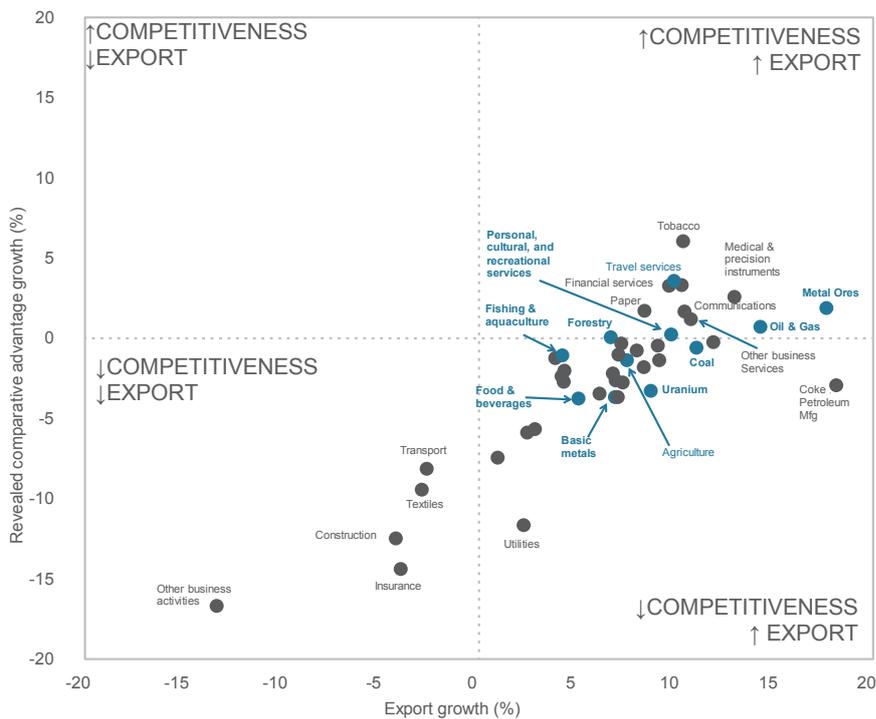
Australia's exports appear innovation-driven, but lack diversity

There are almost no sectors in Australia that have high export competitiveness without also having high innovation capabilities, including high R&D investment. Chart 3 shows the industries where our exports have been increasing. It also illustrates Australia's competitiveness in those industries by indicating whether our share of exports in the sector has been increasing or decreasing (i.e. revealed comparative advantage).

Ideally, the majority of Australia's exporting industries would record growth in competitiveness and exports. This is the case for key export sectors like metal ores, oil & gas and travel services where Australia has been displacing competitors from other countries and taking a higher share of global demand. However, in other export industries like agriculture, coal and food & beverages, exports may have increased, but our competitiveness has fallen relative to other countries.

Investment in innovation drives market diversification domestically and internationally. While Australia has a diversified domestic industrial base, this is not reflected in the diversity of its exports. Australia's capacity to be internationally competitive in a range of diverse products has declined over the last fifteen years, despite a few emerging export industries, and we rank as one of the countries with the least diverse export profiles among the OECD.

Chart 3 Industry growth in revealed comparative advantage and gross exports



Notes: Compound annual growth rates cover 1993 to 2012 for goods sectors and 2006 to 2011 for services sectors. Sectors with high revealed comparative advantages in 2008–12 are highlighted in different colours.

Sources: UN Comtrade Database (comtrade.un.org/); for Australia's export in 2009–11: ABS, International trade in services by country, by state and by detailed services category, calendar year, cat. no. 5368055004; and World Bank DataBank (databank.worldbank.org) for Australian exchange rates.