Examining Australia’s competitiveness can reveal insights about the state of the Australian economy, and also uncover policy settings that can help improve Australia’s performance.

Competitiveness can be examined at the firm, sectoral and national levels.

We can use these outcomes to improve our understanding of Australia’s current competitiveness.

Economic outcomes include:
- Economic growth
- Productivity
- Competitiveness of firms, sectors and markets
- Prosperity
- Employment

Macroeconomic stability, ability to attract resources, competition and innovation, openness to trade are key factors in Australia’s competitiveness.

Australia’s competitiveness

Economic outcomes

What does competitiveness mean for Australia?
In today’s increasingly interconnected global economy, a country’s success is determined by its competitiveness.

Australia’s firms, industries and regions are constantly being challenged by new competitors in domestic and international markets. Both the International Institute for Management Development (IMD) and the World Economic Forum (WEF) have found that Australia’s competitiveness has been falling.

Understanding the extent to which this is true will not only reveal important insights about the state of the Australian economy, but also uncover policy settings that can help improve Australia’s performance.

This chapter introduces the overarching theme — competitiveness — for the Australian Industry Report 2016. It explores the topic of competitiveness through multiple lenses, and examines the following questions:

- What is competitiveness?
- Why is competitiveness important?
- What is the best way to measure competitiveness?
- How does Australia’s competitiveness compare to that of other countries?

The concept of competitiveness is difficult to define and measure. Competitiveness can be considered from many perspectives. It can be examined at the firm, sectoral and national levels, or by looking at the inputs that create competitiveness and the outcomes that signal competitiveness.

This chapter examines competitiveness by focusing on economic outcomes at the national level — identifying a set of characteristics and associated indicators that would be expected to be seen in a competitive economy. Together, these indicators can be used to improve our understanding of Australia’s current competitiveness.

**Exploring concepts of competitiveness**

While there are many different definitions of ‘competitiveness’, it is generally understood to be ‘the capacity to compete with one’s rivals’. It is a broad concept that can be measured by many different indicators. The micro dimension of competitiveness considers competition among firms. In contrast, the macro dimension refers to competition among countries.

Porter and Krugman consider that businesses rather than nations compete, while others note that competition can mean the productivity growth of a nation, or the fate of firms or enterprises.

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International competitiveness has traditionally been linked to comparative advantage. This is based on opportunity cost (i.e. the opportunity cost of one good in terms of another) with differences determined by endowments of labour, capital and land. So long as endowments differ, trade can lead to specialisation gains.

Competitiveness can therefore also be about value differentiation. For a country, this may be about capitalising on natural assets (e.g. mineral commodities) or advantages such as proximity to markets. For a firm, this can be about establishing a niche market distinct from their competitors.

It is also worth acknowledging that competitiveness is frequently associated with cost. At the firm level this can include the cost of wages, interest, transport, logistics and energy. Chapter 3 explores the impact of different types of cost reductions in more detail.

Implicit in this discussion is the fact that competitiveness is a relative concept. A firm wishes to be better than their competitors, a country to be more attractive than its neighbours. Competitiveness is dynamic, with the desire to improve, resulting in a continual raising of the bar. Maintaining prior performance is therefore insufficient, as competing tends to require continuous improvement.

Competitiveness can be examined at the firm, sectoral and national level — as shown in Figure 1.1.
Firm level

Competitiveness at the firm level is based on the capacity of firms to compete, grow and profit. Firm-level competitiveness resides in the ability of firms to consistently and profitably produce products that meet the requirements of an open market in terms of price and quality. The more competitive a firm is relative to its rivals, the greater its ability to gain market share will be. Ultimately, any firm that remains uncompetitive — unless it receives support or protection — will go out of business.

Sector level

Competitiveness at the sector level is the ability of a sector in a country to compete successfully, without protection or subsidies, against competing sectors from other countries. It is also the ability of the sectors in a country to be as efficient and effective as those in internationally leading countries for those sectors.

National level

Competitiveness at the national level is defined by the Organisation of Economic Co-operation and Development (OECD) as ‘the degree to which, under open market conditions, a country can produce goods and services that meet the test of foreign competition while simultaneously maintaining and expanding domestic real income.’

In this context, competitiveness is the capability of a country to achieve sustained economic growth by efficiently allocating available resources (e.g. human and natural resources, capital), alongside the appropriate structures, institutions and policies.

Measuring a country’s competitiveness

The complexity and interdependence of an economic system means that any assessment of competitiveness needs to take into account a range of indicators. No single indicator can capture every competitiveness dimension.

Composite indices

A number of organisations have produced composite measures that combine various metrics into a single index.

- The IMD World Competitiveness Yearbook looks at four main competitiveness factors and then breaks them down to a further five sub-factors. Altogether, it uses 342 competitiveness indicators, two-thirds from data and one-third from surveys.

- The WEF analyses 12 pillars of competitiveness to gather a total of 114 indicators, which are then combined using a weighted average formula.

Indices produced by the IMD and the WEF place Australia in the top 17th and 22nd of their respective samples for 2016, as set out in Table 1.1.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>About</th>
<th>Australia’s rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEF Global Competitiveness Index (2016–17)</td>
<td>The index examines institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication and innovation.</td>
<td>22nd out of 138</td>
</tr>
</tbody>
</table>

Notes: IMD ranking was out of 61 economies in 2016. WEF ranking was out of 138 economies in 2016–17.


While these indices present a general sense of how countries compare, they have a number of shortcomings. For instance, these indices:

- may use statistically unreliable sources, including small samples and opinion-based surveys
- have potential for double counting
- make their own assumptions about which indicators are included and how they are weighted.

The last point is particularly important. How factors combine to make an economy more or less competitive is a complicated story. For example, a high tax environment will detract from a country’s competitiveness. But greater tax revenues can be used towards productivity-enhancing infrastructure and have the opposite effect. Likewise, increasing the average education level will have a significant positive effect on competitiveness initially.

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But as the average increases, the effect is likely to diminish. The selection of indicators should therefore aim to be:

- meaningful — broadly accessible and measuring what they claim
- understandable — clear and unambiguous
- comparable — this is particularly important when comparing across countries
- accurate — collected in a manner which engenders confidence in the results
- transparent — able to be replicated.

Distinguishing between competitive inputs and outcomes

It is clear that the potential number of competitiveness measures is large. To consider which indicators are most important, it is helpful to be able to distinguish between the inputs to competitiveness, and the outcomes that they produce.

Inputs help to achieve overall competitiveness, and describe the components that contribute to overall performance. They can include things such as skills, the provision of infrastructure, regulatory and tax settings, trade barriers etc. Inputs may also be used as a proxy for outcomes when these are not readily observable.

In contrast, outcomes provide a true indication of competitiveness. They reveal the results or success of inputs. For this reason, they are typically more challenging to measure. For example, health outcomes might be focused on living to a certain age or with a certain quality of life, while inputs may be focused on the type and quality of medical care received.

A focus on outcomes for competitiveness also means it is possible to assess relative performance without needing to understand how it is produced. For example, there may be a number of reasons (inputs) that explain why Australian firms are competitive in foreign markets. But the fact that firms can (and do) export is the best way to demonstrate that they are competitive.

Outcomes typically associated with competitive countries are set out in Figure 1.2, and include:

- economic growth and a stable macroeconomic environment
- the ability to attract resources, such as skilled labour and investment
- high levels of innovation and competition
- well-functioning, competitive and open markets.

Where there is an improvement in any of these outcomes, it is generally a sign that competitiveness has also improved.

The next section examines how each of these outcomes can be measured, and assesses Australia’s relative performance.
Figure 1.2: Outcomes typically associated with competitive countries

Competition and Innovation

Performance indicators

Figure 1.2: Outcomes typically associated with competitive countries

Source: Department of Industry, Innovation and Science (2016)

Competitiveness indicators

This section summarises the key outcome indicators associated with competitiveness.

Consistent with the idea of competitiveness as a relative concept, the selection of comparable countries is important. This chapter compares Australia’s performance with the United States, Canada, the United Kingdom, New Zealand, Germany and Japan. In terms of the level of economic development, these countries are more or less similar to Australia. On occasion it has also been useful to compare Australia with the OECD average or euro area group of 19 countries.

Australia’s relative performance is reported in Table 1.2.
### Table 1.2: Australia and international comparison — indicators of competitiveness

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Australia</th>
<th>International comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Macroeconomic stability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth</td>
<td>2.5 per cent in 2015</td>
<td>2.2 per cent in 2015</td>
</tr>
<tr>
<td>Multifactor productivity growth</td>
<td>–1.3 per cent (average annual change over five years) 2009–2014</td>
<td>0.5 per cent (average annual change over five years) 2009–2014 for the United States</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>6.1 per cent in 2015</td>
<td>6.8 per cent in 2015</td>
</tr>
<tr>
<td><strong>Ability to attract resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private business investment</td>
<td>27.2 per cent (gross capital formation as a percentage of GDP) in 2014</td>
<td>20.7 per cent (gross capital formation as a percentage of GDP) in 2014</td>
</tr>
<tr>
<td>Foreign direct investment</td>
<td>2.7 per cent (inward flow of foreign direct investment as a percentage of GDP) in 2014</td>
<td>1.2 per cent (inward flow of foreign direct investment as a percentage of GDP) in 2014</td>
</tr>
<tr>
<td>Labour productivity growth</td>
<td>1.4 per cent (average annual change over five years) 2010–2015</td>
<td>0.5 per cent (average annual change over five years) 2010–2015 for the United States</td>
</tr>
<tr>
<td>Skilled migration</td>
<td>128,550 visas granted to permanent migrants under the skills stream of Australia’s migration programme in 2015–16</td>
<td>Similar metric unavvalible</td>
</tr>
<tr>
<td><strong>Characteristics of a competitive economy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Businesses engaging in innovation</td>
<td>62.2 per cent of small and medium-sized enterprises in 2011</td>
<td>48.7 per cent of small and medium-sized enterprises in 2011</td>
</tr>
<tr>
<td>Businesses collaborating on innovation</td>
<td>77.9 per cent of large enterprises in 2011</td>
<td>75.3 per cent of large enterprises in 2011</td>
</tr>
<tr>
<td>Merchandise and services exports</td>
<td>1.1 per cent of global merchandise exports in 2015</td>
<td>9.1 per cent of global merchandise exports in 2015 for the United States</td>
</tr>
<tr>
<td>Terms of trade</td>
<td>10.3 per cent decline from 2013 to 2014</td>
<td>0.1 per cent increase from 2013 to 2014</td>
</tr>
</tbody>
</table>

**Notes:** All international comparison indicators use the OECD average, except for multifactor productivity, labour productivity, and merchandise and services exports which are for the United States.

Macroeconomic stability

All other things equal, a more competitive economy has higher economic growth and a lower unemployment rate.

Stability across these measures supports a better allocation of resources. Stability helps individuals and firms plan for the long term, which improves the quality and quantity of investment in the economy. Stability also assists in keeping price inflation within a target range, and improving the efficiency of the price mechanism in allocating resources.

The quality and sophistication of the financial system also plays an important role in achieving this stability. A well-developed financial system ensures stable flows of funds from savers to borrowers.

Ways to measure macroeconomic stability include:

- GDP growth
- multifactor productivity
- unemployment rate.

GDP growth

Gross Domestic Product (GDP) is one of the primary indicators used to gauge the health of a country’s economy. GDP growth is important because it gives information about the size of the economy. The growth rate of real GDP is often used as an indicator of the general health of the economy. Stable GDP growth provides confidence for citizens, and assists in achieving good fiscal decision making by government.

Australia’s GDP growth compares well internationally, and has strengthened in recent years. In 2015, Australia’s GDP grew by 2.5 per cent — slightly lower than its five-year average growth rate of 2.7 per cent. Australia’s growth rate continues to be higher than the average growth rates for the OECD and euro area, but 2015 saw notable strong performance from New Zealand and the United States, recording 3.4 per cent and 2.6 per cent respectively.

Multifactor productivity

Multifactor productivity measures the growth in economic output above that directly attributable to growth in measured capital and labour inputs. As such, it captures the influence of improvements in production-related factors such as skills, technology and management practices. Multifactor productivity is the measure that comes closest to the underlying concept of productivity.

There has been a slowing of multifactor productivity growth across most advanced economies in recent decades. Australia’s multifactor productivity growth has fallen below the rates of most OECD countries over the past ten years (see Figure 1.3) and recorded the weakest multifactor productivity growth of the comparator countries from 2009 to 2014. The decline in Australia’s multifactor productivity reflects high capital investment that has not yet been matched by the rate of growth in actual output, particularly in the Mining industry.

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5 GDP data sourced from OECD (2016) OECD Statistics, Annual National Accounts, Main Aggregates, Gross Domestic Product, constant prices, constant PPPs, reference year 2010, USD millions
6 Multifactor productivity data sourced from The Conference Board Total Economy Database™ (September 2015), Growth Accounting and Total Factor Productivity, 1990–2014
CHAPTER 1: Australia’s competitiveness

Unemployment rate

The performance of the labour market plays an important role in competitiveness and stability. A well-functioning labour market enables the allocation of workers to their most efficient use at a minimum social and economic cost. Low unemployment rates indicate that an economy is capable of generating new job opportunities.

Australia’s unemployment rate has stabilised in recent years after several years of gradual increases. In 2015, Australia’s unemployment rate was 6.1 per cent — slightly higher than its five-year average. Solid outcomes in employment appear to reflect a combination of wage restraint (which has reduced potential job losses) and growth in labour-intensive industries.

Australia’s unemployment rate continues to be lower than the unemployment rate in Canada and the euro area. Japan continues to hold the lowest unemployment rate of the comparator countries at 3.4 per cent, followed by Germany at 4.6 per cent. In the past year, notable strong improvement has come from the United States and the United Kingdom, with the unemployment rate in both countries falling by nearly 1 per cent to 5.3 per cent.

Ability to attract resources

A strong indicator that a country is competitive is its ability to attract resources, such as investment and skilled migration.

The overall investment climate depends on a number of factors such as the availability of finance, macroeconomic stability and the existence of sufficiently skilled workers. The

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Unemployment rate data sourced from OECD (2016) OECD Statistics, General Statistics, Key Short-Term Economic Indicators: Harmonised Unemployment Rate: all persons, seasonally adjusted
level of investment in information and communication technology has become increasingly important as a facilitator of improved technology and organisational or process change. The level of foreign investment is also important, as it helps to open up markets to new entrants and creates direct, stable and long-lasting links between economies.

Ways to measure the ability of a country to attract resources include:

- private business investment growth
- foreign direct investment
- labour productivity
- skilled migration.

**Private business investment growth**

Investment is one of the most important determinants of long-run economic growth. Growth levels in business investment are associated with future business activity and patterns of economic growth.

Australia’s business investment growth, measured by private gross fixed capital formation, has been negative since the December quarter of 2012. A $ Australia’s business investment fell by 10.5 per cent from June 2015 to June 2016, and goes some way to explaining current subdued business conditions. The recent fall in business investment is attributed to the winding back of mining investment, with other sectors and industries yet to make up the shortfall (see Figure 1.4). This is inevitable, given that mining investment reached record-high levels.

Despite recent declines in Australia’s business investment, Australia’s gross capital formation as a percentage of GDP continues to be higher than all comparator countries. In 2014, Australia’s gross capital formation as a percentage of GDP was 27.2 per cent, followed by Canada at 24.2 per cent and New Zealand at 22.6 per cent.

![Figure 1.4: Australia, private capital expenditure by industry, June quarter 2006 to June quarter 2016](image_url)

**Notes:** Year ended quarterly estimates, trend data, chain volume measures. Capital expenditure for Agriculture, Forestry & Fishing; Public Administration & Safety; Education & Training; Health Care & Social Assistance; and Superannuation Funds are not captured by this Australian ABS survey.

**Source:** ABS cat. no. 5625.0, table 3b

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8 ABS cat. no. 5206.0, table 2
9 Ibid
10 ABS cat. no. 5625.0, table 3b
11 The World Bank (2016), *World DataBank, World Development Indicators*, Gross capital formation (% of GDP). Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.
12 Ibid
Foreign direct investment

Foreign direct investment is an important form of capital movement. It is highly elastic, and responsive to the competitive environment in the target country. Foreign investment provides an additional source of funding when there is insufficient capital available domestically, and can be an important vehicle for economic development. Empirical evidence shows that inward investment boosts productivity, and outward investment complements exports and technology transfer.\(^{13}\)

Growth in foreign direct investment has been significant for the past 10 years, and indicates that Australia is an attractive investment destination. The flow of foreign direct investment to Australia was $49 billion in 2015, which contributed to a year-ended stock of foreign direct investment of $735 billion.\(^{14}\) The stock increased from 27 per cent of GDP in 2005 to 45 per cent of GDP in 2015.\(^{15}\)

Internationally, foreign direct investment stocks were affected by the GFC, with most comparator countries experiencing a decline in 2008.\(^{16}\) However, between 2010 and 2014, the United States experienced the largest increase in its foreign direct investment stock, increasing by 58.1 per cent.\(^{17}\) This was followed by the United Kingdom at 51.9 per cent and New Zealand at 25.6 per cent.\(^{18}\) Over the same period, New Zealand had the strongest inward flow of foreign direct investment, increasing by 230.5 per cent, followed by Canada which increased by 89.7 per cent.\(^{19}\) In 2014, Canada had the highest inward flow of foreign direct investment as a percentage of GDP at 3.3 per cent, followed by Australia at 2.7 per cent and the United Kingdom at 1.8 per cent.\(^{20}\)

Labour productivity

Labour productivity is the ratio of output to labour inputs (hours worked) used in the production process. An economy’s labour productivity can be improved by adopting new practices, products and processes that add extra output or enable existing output to be produced with fewer inputs.

Labour productivity growth depends on investment in physical capital, technological advancement, and improvements in knowledge intensity and skills.

Australia’s labour productivity growth exceeds most OECD countries.\(^{21}\) Australia’s labour productivity grew at an average annual rate of 1.4 per cent from 2010 to 2015. Australia recorded the strongest labour productivity growth of the comparator countries from 2010 to 2015, followed by Canada at 1.0 per cent and the United Kingdom at 0.8 per cent.

Skilled migration

Skilled migration boosts innovation, productivity and national income. Skilled migration allows a business to recruit the skills they need that may not be available locally. A country that can attract skilled workers adds to the stock of human capital, increases its knowledge and improves an economy’s labour productivity.

Skilled migration continues to be a major component of Australia’s labour market growth. In 2015–16, 128,550 visas were granted to permanent migrants under the skills stream of
Australia’s migration programme. According to the latest information from the Continuous Survey of Australian Migrants, the employment outcomes for these migrants were strong. Labour force participation for such migrants over the survey period was 95.6 per cent — much higher than the national rate of 64.8 per cent.

Net overseas migration has exceeded the net natural increase in the population (i.e. births minus deaths) over the past decade. During this period, strong growth in skilled migration has been a key contributor to the overall rise in net overseas migration. In 2014, Australia had the second fastest population growth rate in the OECD at 1.6 per cent, followed by New Zealand at 1.5 per cent.

**Competition and innovation**

Competition enhances the efficient allocation of resources in the economy. It acts as a disciplining device, putting pressure on firms to become more efficient and driving them to innovate. It also benefits consumers by keeping prices low.

Healthy competition is supported by well-functioning regulation. Governments set the rules around market operation to address market failures, ensure markets operate with minimal barriers to entry, and restrict the misuse of market power. Effective monitoring and enforcement of competition rules form an integral part of competition policy. Despite its importance, indicators of the level of competition, or adequacy of competition regulation, are difficult to identify.

Competition also drives innovation, which plays a key role in improving productivity. Innovation generates new products, and provides new ways of producing them more efficiently, leading to productivity improvements. Although commonly linked with new technologies, innovation also encompasses applying new or better organisational structures and business processes.

There is strong empirical evidence that innovation benefits the economy and the competitiveness of Australian business.

Ways to measure innovation include:

- businesses engaging in innovation
- businesses collaborating on innovation.

**Businesses engaging in innovation**

Businesses engaging in innovation tend to be more competitive, more capable of capturing increased market share, and more likely to increase employment than their competitors.

In 2011, the proportion of Australian small and medium-sized enterprises engaging in innovative activity (62.2 per cent) was higher than for the same cohort across the OECD, which averaged 48.7 per cent. Australia ranked in the top five OECD countries in terms of innovative activity for small and medium-sized enterprise in 2011.

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27 Businesses engaging in innovation data sourced from OECD, Science, Technology and Industry Scoreboard, 2015
Australian large enterprises tend to engage more in innovative activity than smaller enterprises, but do not perform as well when compared with the top five OECD countries in 2011. Of the comparator countries, Germany had the highest proportion of large enterprises engaging in innovative activity at 92.2 per cent, while the United Kingdom had the lowest proportion at 56.2 per cent. Australian large enterprises are innovative by OECD standards, with 77.9 per cent of Australia’s large enterprises engaging in innovative activity compared with the OECD average of 75.3 per cent. Australia is good at incorporating new-to-business innovations, but is poor at introducing new-to-market innovations.

**Businesses collaborating on innovation**

Businesses that collaborate on innovation are significantly more likely to report productivity and profitability growth and introduce more novel innovations, especially if this collaboration is with research organisations.

In 2009, the proportion of Australian small and medium-sized businesses collaborating on innovation was relatively low at 24.0 per cent, compared with the United Kingdom at 65.6 per cent and Japan at 40.3 per cent (see Figure 1.5). Australian large firms have performed better than their smaller peers on collaborating on innovation — 33.1 per cent compared to 24.0 per cent in 2009. Internationally, the United Kingdom and Japan have the highest proportion of large firms collaborating on innovation, at 79.9 per cent and 59.5 per cent respectively.

![Figure 1.5: International comparison, percentage of innovation-active firms collaborating on innovation, 2009](image)

**Figure 1.5: International comparison, percentage of innovation-active firms collaborating on innovation, 2009**

The degree of collaboration between Australian businesses and universities and other non-commercial research institutions was among the lowest in the OECD in 2011. As Figure 1.6 shows, Australia is well behind our comparator countries for university-to-business collaboration. The gap is particularly apparent between Australia’s large firms and our international comparators.

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Openness to trade

International competition is particularly effective for spurring efficiency and acting as a catalyst for innovation. Trade provides a competitive pressure to induce capital and labour to shift toward more efficient uses. Economies that are open to trade can specialise in producing what they do best. By opening up new markets, trade facilitates technology transfer, spreads best practice, and increases the potential return to new ideas.

Open economies typically build up substantial trade flows with other countries. The factors affecting trade share may be cyclical, and can include both currency and terms of trade movements. However, there is also a strong structural component that reflects underlying cost competitiveness and innovativeness. Chapter 5 contains more information on the relationship between exporting and firm performance.

Ways to measure a country’s openness to trade include:

- merchandise and services exports
- terms of trade.

Merchandise and services exports

Exports provide a signal about global demand for a country’s products, and indicate how well these products compete on international markets.

Australia’s share of global exports has fallen in recent years, and is smaller than most OECD countries.29 In 2015, Australia’s share of global merchandise and service exports was 1.1 per cent and 1.0 per cent respectively. Australia’s share of global exports remains higher than New Zealand, but lower than the United States, Germany and the United Kingdom. In 2015, the United States held the largest share of both global merchandise and services exports — 9.1 per cent and 15.2 per cent respectively.

Australia’s share of global merchandise exports rose sharply between 2007 and 2011 (see Figure 1.7) as commodity prices spiked. Export performance over this period was underpinned by resource and energy exports, with other sectors performing moderately.

Notes: Data not available for New Zealand.

Source: OECD, Science, Technology and Industry Scoreboard, 2015

Merchandise and services exports data sourced from The World Bank (2016), World DataBank, World Development Indicators, Merchandise exports (current US$) and Service exports (BoP, current US$)
Australia’s share of global merchandise exports has been falling since 2011, as commodity prices retreat from their record highs.

### Figure 1.7: Australia’s share of global exports, 2005–2015

![Graph showing Australia’s share of global exports, 2005–2015](image)

Source: The World Bank, *World DataBank*, World Development Indicators, Merchandise exports (current US$) and Service exports (BoP, current US$)

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**Terms of trade**

The terms of trade is defined as the ratio of export prices to import prices. An increase in the terms of trade means that a country requires fewer exports to pay for a given volume of imports. This allows the reallocation of domestic factors of production from exports to domestic consumption or investment activities. The terms of trade has important macroeconomic implications through its influence on domestic purchasing power and per capita incomes. An improvement in the terms of trade tends to be associated with a higher standard of living.

Australia’s terms of trade increased by 57 per cent from 2004 to 2011. The rise was primarily driven by large increases in export prices for commodities such as iron ore and coal. Australia’s terms of trade peaked in September 2011, and has since declined by 22 per cent between 2011 and 2014. This was the fastest decline of the comparator countries during this period, followed by Japan and Canada, while all remaining comparator countries recorded increased growth. Despite recent declines, Australia’s terms of trade between 2004 and 2014 has still grown more than all comparator countries.

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How does Australia measure up?

Examining competitiveness from an outcomes perspective allows for an assessment of Australia’s relative performance compared to our key comparator countries, and highlights where Australia’s performance is declining or improving.

The competitiveness indicators identify a number of areas where Australia is performing well relative to other countries. Australia has a history of strong economic growth. Over the past five years, Australia recorded one of the fastest GDP growth rates among our comparator countries, increasing at an average annual rate of 2.7 per cent from 2010 to 2015, equal with the performance of New Zealand.

Australia’s labour productivity growth has exceeded most OECD countries. Against our comparator countries, Australia recorded the strongest labour productivity growth from 2010 to 2015, increasing at an average annual rate of 1.4 per cent. This was followed by Canada at 1.0 per cent and the United Kingdom at 0.8 per cent.

But despite this strong performance, there are other areas where Australia lags behind. Australia’s multifactor productivity growth has fallen below the rates of most OECD countries over the past ten years. While the mining boom increased Australia’s output, it did so at the expense of productivity performance, caused by capital investment that was slow to come online. There are signs that Australia’s multifactor productivity is improving as the mining sector moves into the production phase, but this is likely to take several years to manifest.

Business investment growth has been negative since the December quarter of 2012, and goes some way towards explaining Australia’s current subdued business conditions. This trend is not unique to Australia, but Australia’s fall has been particularly large due to the tapering of the mining investment boom.

Australia also faces challenges in innovation, particularly on business collaboration. Collaboration between businesses and universities and other non-commercial research institutions in Australia is one of the lowest in the OECD. Despite a recent focus on improving Australia’s rates of collaboration, improvement has been slow, with Australia’s comparators well in front.

The indicators identified in this chapter suggest our current competitiveness performance is mixed. The measures used to generate the IMD and WEF rankings are different to the outcome-focused indicators that appear in this chapter, and much more numerous. But the recent slip in these rankings does not appear to be inconsistent with this chapter’s indicators.

Many of our comparators are much larger, with deeper pockets (albeit challenged by rising global debt levels) and stronger innovation and productivity performance. Australia will need to do more to keep up. By better understanding what drives our relative competitiveness, our policies can be clearly targeted at improving Australia’s competitive economic performance. Subsequent chapters explore specific aspects of competitiveness in greater detail, and offer a wide range of policy insights and perspectives on improving Australia’s competitiveness.