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The Long Boom

What China's Rebalancing means for Australia's Future

The 2016-2026 Australia China Trade Report
2018/19 update



Acknowledgments

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The views expressed in this paper are those of the authors alone.

About the Australian Centre for Financial Studies

The Australian Centre for Financial Studies (ACFS) is a not-for-profit research centre affiliated with Monash Business School. We draw on expertise from academia, industry and government to promote thought leadership in the financial sector.

As specialists in leading-edge finance and investment research, we aim to boost the global credentials of Australia's financial industry, bridge the gap between academia and industry, and support Australia as an international centre for finance practice, research and education.

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A message from The Hon. John Brumby AO, National President of the Australia China Business Council

It is with great pleasure that I present this update of *The Long Boom: What China's Rebalancing Means for Australia's Future*.

Commissioned by ACBC and produced by Monash Business School's Australian Centre for Financial Studies (ACFS), the 2016–2026 Australia China Trade Report offered a fresh perspective on Australia's trade relationship with China across a ten year horizon. As the first future-focused report in the Australia China Trade Report series, *The Long Boom* discussed the implications for Australian businesses across key industry sectors as China rebalanced from an investment-led economy to one driven by consumption.

China's economic output is still expanding and the absolute size of the Chinese economy has more than doubled over the past decade. China is now home to the world's largest middle class, whose demand continues to shift the composition of trade with our largest trading partner.

The Long Boom sets out three possible futures for Australia's trade with China, and seeks to spark discussion within industry and government as to how Australia can further develop this important relationship. Sponsored by ShineWing Australia—one of Australia's first examples of a strategic advisor with a genuine partnership with a China-based service provider—*The Long Boom* has direct application to every Australian industry sector that is sensitive to Chinese demand.

Services already account for around 75 per cent of Australia's economic output and 85 per cent of employment. The provision of services to China is vastly different to our historical commodities trade. To capture the opportunities presented by China, Australian businesses must develop an understanding of Chinese consumers' preferences and a work force skilled for the Chinese market.

As the premier business organisation dedicated to the promotion of business and trade between Australia and the People's Republic of China, ACBC was very pleased to provide the 2016 report. This 2018–19 update will continue an important conversation about our business relationship with China—one that will shape the success of Australia's economy into the future.



John Brumby





Message from Danny Armstrong, Managing Partner, ShineWing Australia

This report spans an outlook from 2016 – 2026. In Australia this is considered long-term, but in China, it is a relatively short period.

To ensure that the data remained topical and representative of the opportunity first presented, during 2017 and 2018, following President Xi Jinping's expansive and definitive launch of China's latest five-year plan, our firm thought it imperative to engage with various industry leaders and participants to see how they were managing China trade opportunities and challenges.

We conducted a series of Executive Boardroom discussions across Victoria, New South Wales, Queensland and Darwin focused on a variety of different industry sectors and learned that there were several themes connecting all industry sectors across these markets.

These themes included: the rise of digital influence, the importance of brand Australia in the China market in the context of assured quality and experience, the importance of Australia's proximity and time zone to making doing business with China easier and the role media plays in supporting these opportunities.

Of key importance was how well regarded our capabilities in Occupational Health & Safety, quality and risk standards, training and education were and the flow on effect of these across all sectors.

Some of our attendees' observed that from their perspective China wasn't rebalancing, but rather progressively evolving. In addition it was felt that Australia's media needed to take a more balanced commentary approach related to perceived threats to nationalism.

It was also acknowledged that we needed to upskill our language and capability, address basic infrastructure and underwhelming technological capability and that we need to provide overseas visitors with more bespoke experience offerings. It was noted that with the rise of the Chinese consumer through the expanded middle class, media is also consumed differently.

So the question will continue to remain for all organisations, how do we maximise the opportunity, improve our capability and address these challenges, while building on the momentum that a number of initiatives have afforded us?

This conversation is a market leader and while we all understand the value of trade, we have added in some pertinent fast fact data to capture some of the key investment flows into Australia from China. This is your key document to assist you as you consider the monumental impact that China's Long Boom outlook provides.



Danny Armstrong

ShineWing
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The future of the Australia-China trade relationship?



Healthcare



Education



Tourism



Financial Services



Construction

China



109
million
adults

China's middle class became the largest in the world, and now comprises (by one estimate) some 109 million adults (almost five times the size of Australia's population)



1 in 58

Australian workplaces are involved in direct exports to China

12.7%

GDP growth rate in 2006

This growth generated additional nominal output of US\$460 billion

6.7%

GDP growth rate in 2015

This growth generated additional nominal output of US\$552 billion

The Chinese economy is worth more now than when GDP growth was at its highest.

Australia

one
MILLION
NEW JOBS

Could be created in the five key industry sectors of health, education, tourism, finance and construction by 2026

China's share of Australian education exports will grow over the next ten years from 31% to 42% in the primary/secondary sector and from 26% to 36% in the tertiary/vocational sector



The gains from Australian services exports to China are expected to be more evenly distributed across the economy of the future



177,000

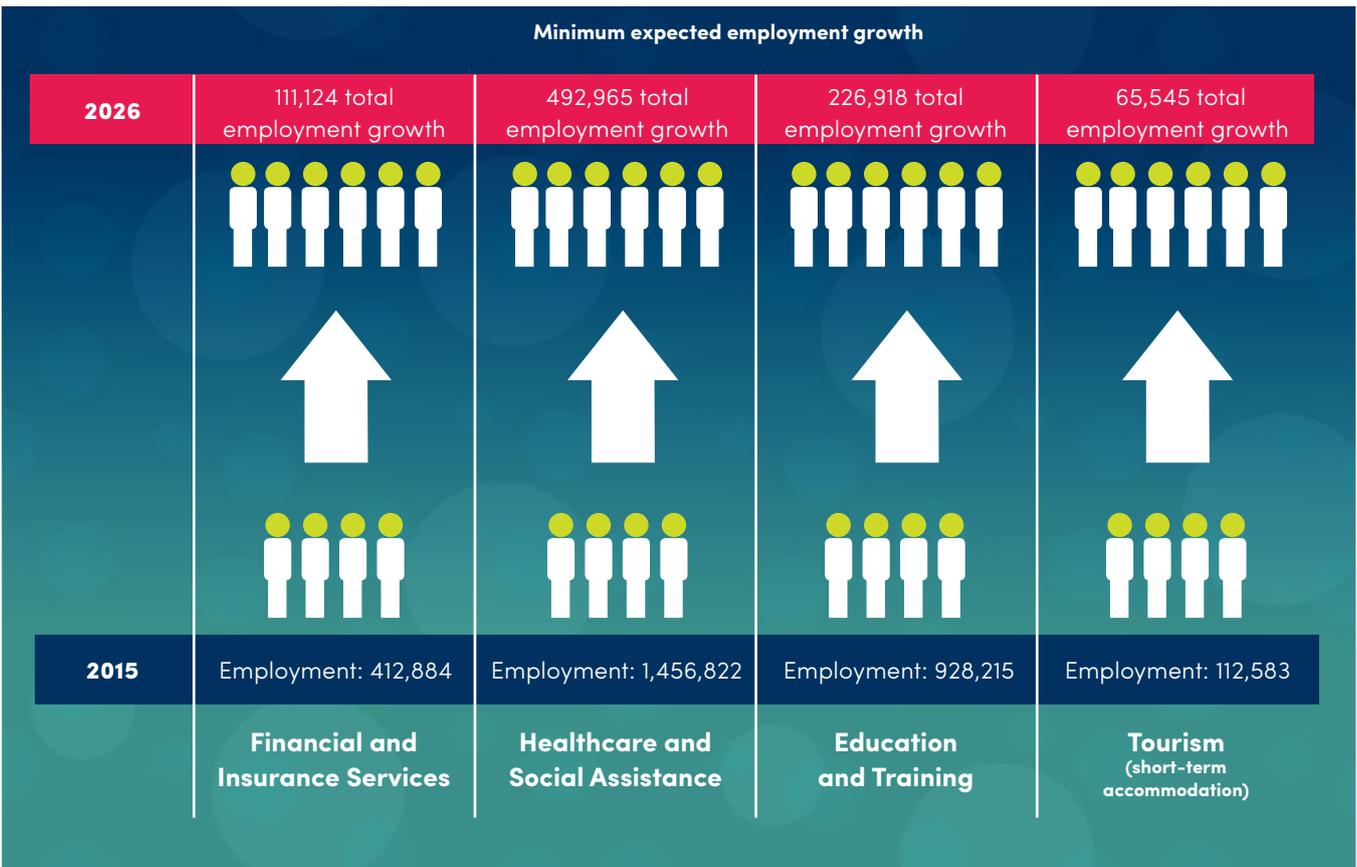
Modelling suggests a potential increase of nearly 177,000 jobs in the construction sector by 2026

Under the Accelerated Rebalancing Scenario, China could claim nearly as high a proportion of Australian healthcare/social assistance exports by 2026 as it does Australian mining exports



The scenarios

<p>Scenario One Baseline</p> <p>Growth rate of Australian exports to China less than 9% per annum falling away to 5% by 2026. This is consistent with the OECD forecast for the Chinese economy.</p>	<p>Scenario Two Accelerated rebalancing</p> <p>China buys 2% more Australian non-mining goods and services than under Scenario One – Baseline.</p>	<p>Scenario Three Accelerated rebalancing and capital account opening</p> <p>Accelerated rebalancing (as per Scenario Two) plus an additional foreign investment stimulus of 10%. Stimulus is spread evenly across all Australian industries.</p>
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Under relatively conservative scenarios for Chinese growth, our modelling suggests that by 2026, China could represent



Executive Summary

China has become Australia's most important trade partner

China is Australia's largest two-way trading partner, and by a significant margin. Not only does China claim nearly 25% of Australia's two-way trade, but the value of this trade is nearly double that of trade with Japan – Australia's second-largest individual trade partner. **Figure A** highlights the rising dominance of China vis-à-vis Australia's major trading partners.

Australia's trade with China has become increasingly diversified

Over the past 15 years, China's exceptional economic expansion and investment-led demand for commodities has contributed significantly to growth and income in the Australian economy. As noted in the 2014 Australia-China Trade Report, the value of trade with China was worth nearly A\$17,000 per Australian household in 2013. Although resources dominated the volume and value of Australian exports to China, **Figure B** demonstrates that China has also claimed a rising share of non-mining goods and services exports over the past decade or more.

Although China's headline rate of growth has slowed, economic output is still rapidly expanding

While China has helped propel a period of impressive growth in Australia, its growth rate is now slowing. The decline in China's real gross domestic product (GDP) growth rate, from 10% or more per annum earlier this century to 6.9% in 2015, has given rise to concerns about potential spillovers to major trading partners, including Australia. However, there are several notable aspects of China's growth pattern to consider.

The first is the current size of the Chinese economy. Although the rate of growth is now slower than a decade ago, the absolute size of the Chinese economy has more than doubled. Put numerically, in 2015 China's economy added US\$552 billion in additional nominal output. In 2006, China's real GDP growth rate was 12.7%; however, this growth represented just US\$460 billion in additional nominal output (**Figure C**).

Each percentage point of real (inflation-adjusted) Chinese GDP growth today represents more than double the demand it did ten years ago.

China's economy is undergoing a 'rebalancing' towards consumption and services-led growth

The second consideration is the changing composition of Chinese growth. As seen in **Figure D**, the rate of nominal growth in China's industrial sector has declined markedly since 2010, while growth in the services sector has remained above 10% per annum. This coincides with the plateauing of a period of rapid urbanisation and industrialisation in China, during which demand for commodities from abroad (including Australia) soared.

This rotation in the composition of the Chinese economy, away from investment-heavy, manufacturing-led growth and toward consumption and services-led growth, is commonly referred to as 'rebalancing'.

In 2011, the services sector overtook manufacturing to become the country's biggest source of employment. Not long after, China's middle class became the largest in the world, and now comprises (by one estimate) some 109 million adults.

Australia's trade relationship with China must also rebalance

The slowing rate of growth in China and the rebalancing of its economy will have important implications for Australia. This report seeks to explore these implications, focusing in particular on Australian industries most responsive to Chinese import demand. In undertaking this analysis, the report seeks to answer some crucial questions:

- What is the future of the Australia-China trade relationship?
- How might the shifting nature of this relationship affect the broader Australian economy?
- Can Australia recover from the end of the commodities boom?
- Will Australian businesses be sufficiently prepared to act on the new opportunities presented by the Chinese economy?

Figure A: Share of Australian two-way trade (total goods and services) attributable to selected trading partners.

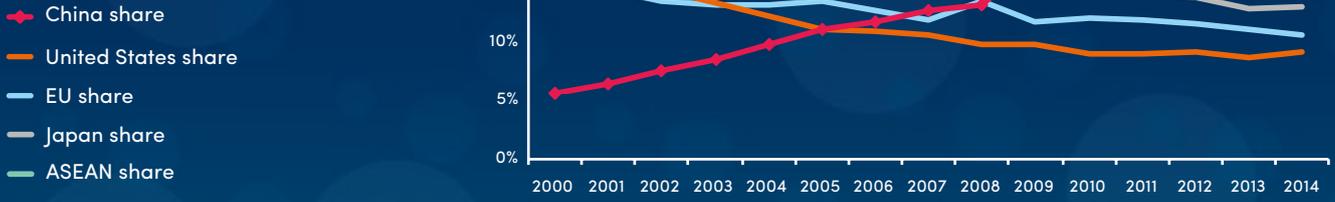


Figure B: Composition of Australian exports to China

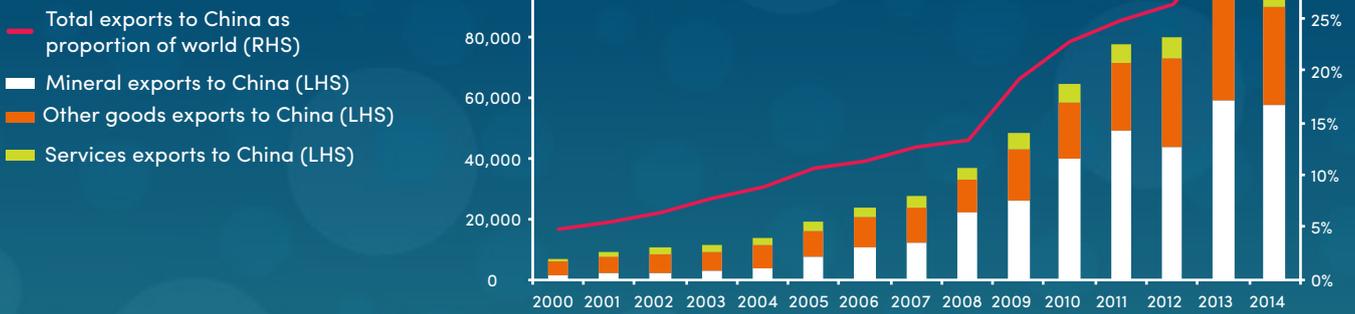


Figure C: Growth in Chinese gross domestic product (GDP).

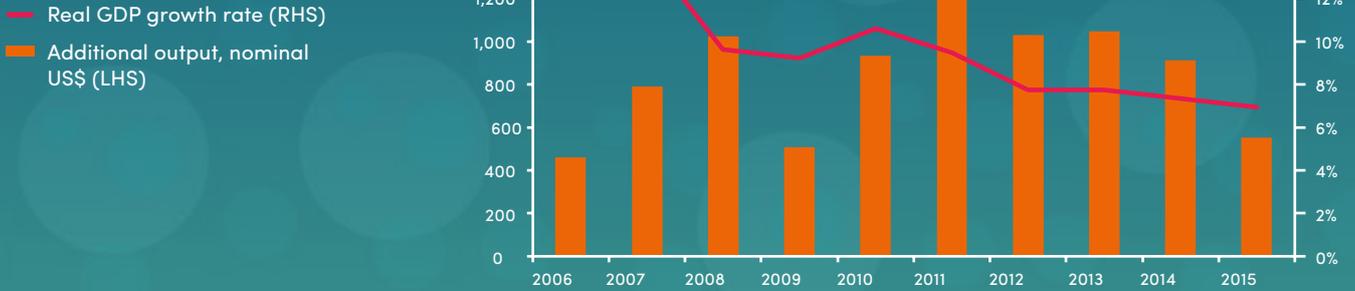


Figure D: Comparative rates of growth for China's services sector, industrial sector and GDP.

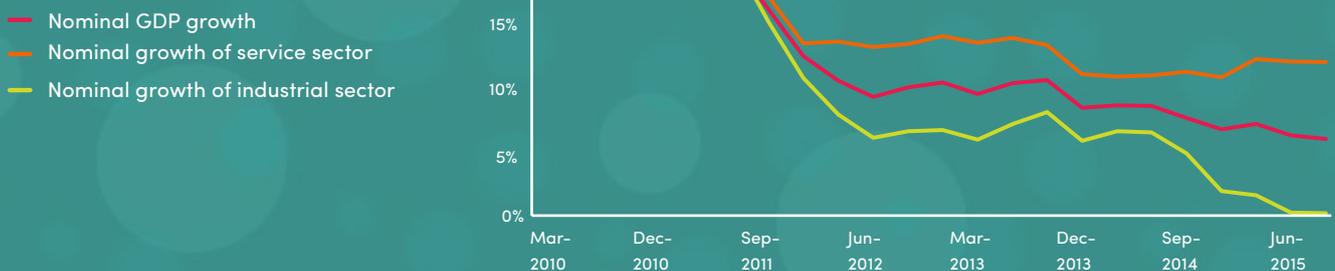


Figure E: Baseline Scenario modelling assumption for the growth rate of Australian exports to China through 2026, relative to the OECD's forecast for Chinese GDP growth.

- Growth in Australian exports to China, Baseline Scenario
- OECD forecast for China GDP growth rate

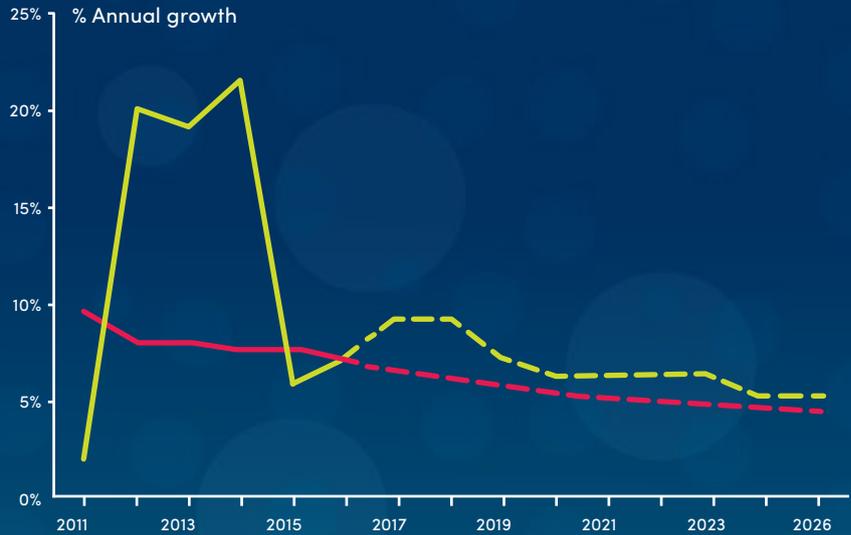


Figure F: Increase in China's share of Australian goods and services exports attributable to a 2% rise in Chinese consumption demand through 2026 (Accelerated Rebalancing).

- Goods: Baseline Scenario
- Goods: Accelerated Rebalancing
- Total: Baseline Scenario
- Total: Accelerated Rebalancing
- Services: Baseline Scenario
- Services: Accelerated Rebalancing

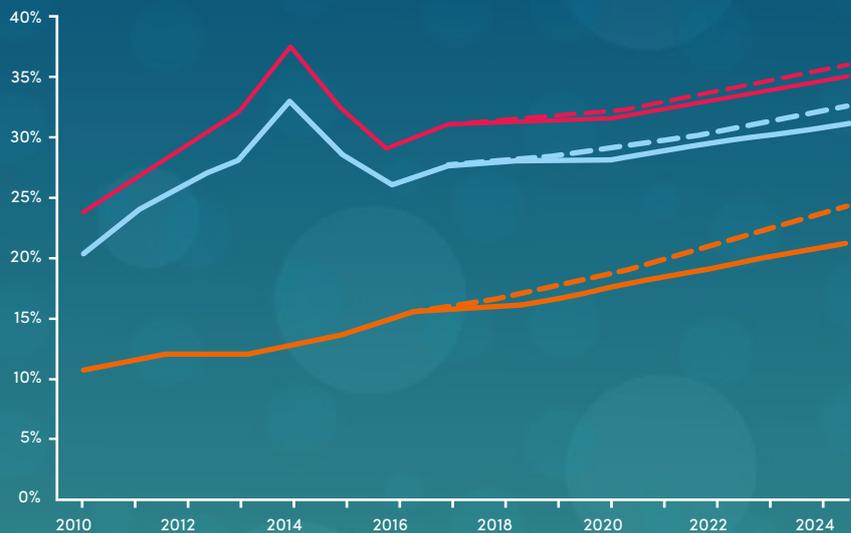
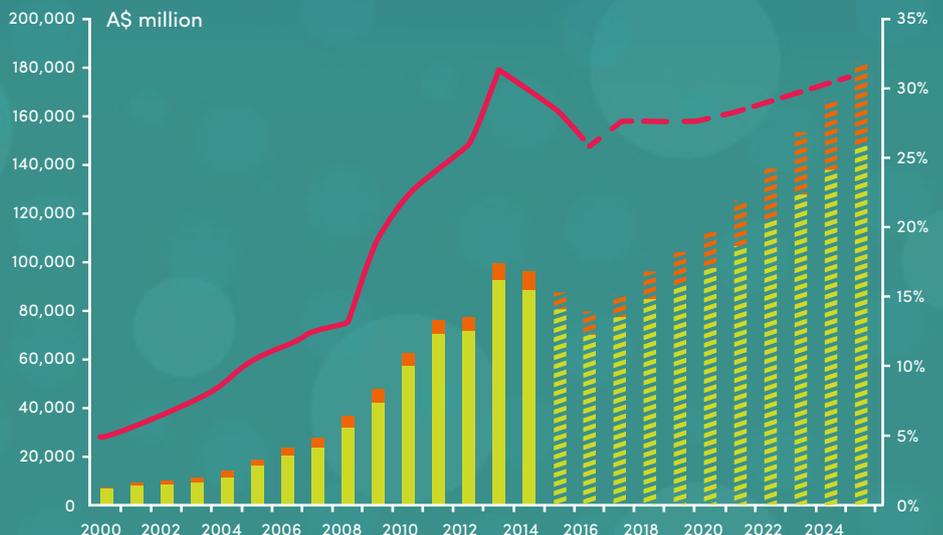


Figure G: Projected growth in Australian goods and services exports to China, Baseline Scenario.

- Goods exports to China (LHS)
- Services exports to China (LHS)
- Total exports to China as proportion of world (RHS)



The benefits from trade with China will be smaller, but more broad-based and jobs-intensive.

To assess the potential impact of China's shifting pattern of growth, this report utilises econometric modelling to estimate the impact of three conceivable 'scenarios' for Chinese demand on the Australian economy. Our findings suggest a largely optimistic future for the Australia-China trade relationship. The three modelling scenarios are outlined below.



Baseline Scenario

Growth rate of Australian exports to China less than 9% per annum; approximately 5% per annum by 2026. Consistent with Organisation for Economic Co-operation and Development (OECD) forecasts for the Chinese economy.

Accelerated Rebalancing

China buys 2% more Australian non-mining goods and services than under Scenario One.

Accelerated Rebalancing and Capital Account Opening

Accelerated rebalancing (as per Scenario Two) plus an additional foreign investment stimulus of 10%. Stimulus is spread evenly across all Australian industries.

Scenario One employs relatively conservative assumptions regarding China's GDP growth and demand for Australian exports. This scenario serves as a baseline. As summarised above, the growth rate of Australian exports to China is assumed to be less than 9% per annum, falling away to approximately 5% per annum by 2026. This is consistent with OECD forecasts for the Chinese economy and Australia's recent export performance. It also incorporates an assumption regarding a transient boost to exports from liquefied natural gas (LNG) in 2017-18 (**Figure E**).

Our analysis suggests that China's future growth pattern will likely demand a wider variety of goods and services from Australia than in the past decade. As such, future gains from Australian exports to China are expected to be more evenly distributed across the Australian economy.

With a moderate increase in Chinese consumption growth, almost a quarter of Australia's service exports could go to China.

Figure F highlights the sensitivity of Australian exports to small movements in Chinese demand. Under the Baseline Scenario, China's share of Australian exports rises from 26% at present, to 31% in 2026. Under the Accelerated Rebalancing Scenario, where China buys just 2% more Australian non-mining goods and services than under the Baseline, China's share rises to 33%.

However, growth in China's share of Australian services exports rises faster than its share of goods exports, with China claiming 24% of Australian services exports in ten years' time. This near-doubling of China's share would constitute a major realignment over a relatively short timeframe.

Figure G presents the Baseline Scenario projections in nominal dollar terms. It shows the projected significant growth of Australian services exports relative to goods exports, even under conservative assumptions. By 2026, 19% of the value of Australian exports to China could be services, nearly double the level in 2015 – when just 9.6% of Australian exports to China were services.

As services exports increase, trade with China will become more personal and involve more people and regions across Australia.

Goods production tends to be an arm's-length affair. In Australia's "rocks and crops" trade, iron ore, wheat, coal and wool do not change significantly as products based on their export destination. Thus, although the share of Australian goods exported to China rose exponentially over the past 15 years (dominated by primary production) Australian producers by and large were not compelled to change the nature of their product offering to appeal to the Chinese market.

Services exports are different. They tend to represent interactions between people – often at a retail, not wholesale level.

Thus, consumer tastes dictate the success or failure of the exported service in a particular market – whether they be educational services, retail services, tourism, financial products or healthcare.

A services economy

Services are the engine of the Australian economy, currently accounting for approximately 75% of Australia's economic output and 85% of employment.

The modelling confirms existing perceptions that education, tourism, healthcare and financial services are among the industries most responsive to Chinese demand. As shown in **Figure H**, these industries collectively represent about 24% of gross value added in the Australian economy – a much larger share than mining and agribusiness combined.

Figure I highlights the potential for substantial increases in China's share of Australian exports in some of Australia's most important industries. By 2026, China could represent:

- **42–47%** of the healthcare and social assistance export market;
- **36–41%** of the educational and training export market
- **30–35%** of the accommodation and food services export market
- **16–19%** of the financial and insurance services export market
- **11–13%** of the construction export market.

Scenario Two, Accelerated Rebalancing, sees China buying 2% more Australian non-mining goods and services than under the Baseline Scenario. Under Scenario Two, China could claim nearly as high a proportion of Australian healthcare/social assistance exports by 2026 as it does Australian mining exports.

Given the dominance of services in the Australian economy, growth in the export of services to China also offers the potential for broad-based employment gains – despite lower export income growth. The modelling suggests that a China-oriented services sector should see employment growth over the coming decade. Every percentage point rise in Chinese import demand above the baseline forecast leads to modest increases in employment in key industries, with the exception of healthcare and social assistance (**Table A**).

Table A: Comparison of results under Scenarios One and Two, selected industries.

2015	2026	
	Scenario One – Baseline Scenario (5–9% export growth to China)	Scenario Two – Accelerated Rebalancing (+2% Chinese demand for non-mining goods and services)
Financial and insurance services		
Output: A\$183 billion % of economy: 6.7% Employment: 412,884	2.90% annual output growth 111,124 total employment growth	+ 0.01% additional growth + 95 additional jobs*
Healthcare and social assistance		
Output: A\$148 billion % of economy: 5.4% Employment: 1,456,822	3.36% annual output growth 492,965 total employment growth	+ 0.00% additional growth - 432 lost jobs*
Education and training		
Output: A\$88 billion % of economy: 3.2% Employment: 928,215	2.68% annual output growth 226,918 total employment growth	+ 0.04% additional growth + 3,425 additional jobs*
Tourism (short-term accommodation)		
Output: A\$14 billion % of economy: 0.5% Employment: 112,583	4.89% annual output growth 65,545 total employment growth	+ 0.11% additional growth + 2,315 additional jobs*

* Note: Our modelling assumes a given supply of labour, in line with projections in the Intergenerational Report and Australian Bureau of Statistics (ABS) forecasts. As such, employment gains in one industry tend to lead to employment losses in another. In practice, strong growth in Australian services industries might attract increased migration from abroad, further contributing to broad-based economic growth.

Figure H: Australian industry composition by gross value added (GVA) 2014-15.

- Agriculture, Forestry and Fishing
- Mining
- Manufacturing
- Construction
- Retail Trade
- Accommodation and Food Services
- Financial and Insurance Services
- Education and Training
- Healthcare and Social Assistance
- Other

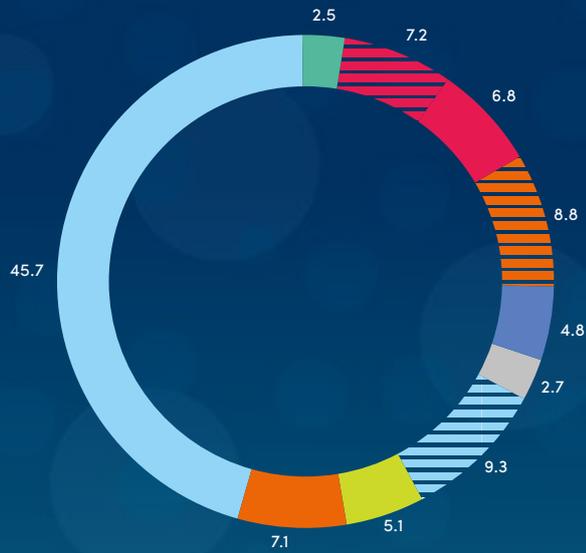


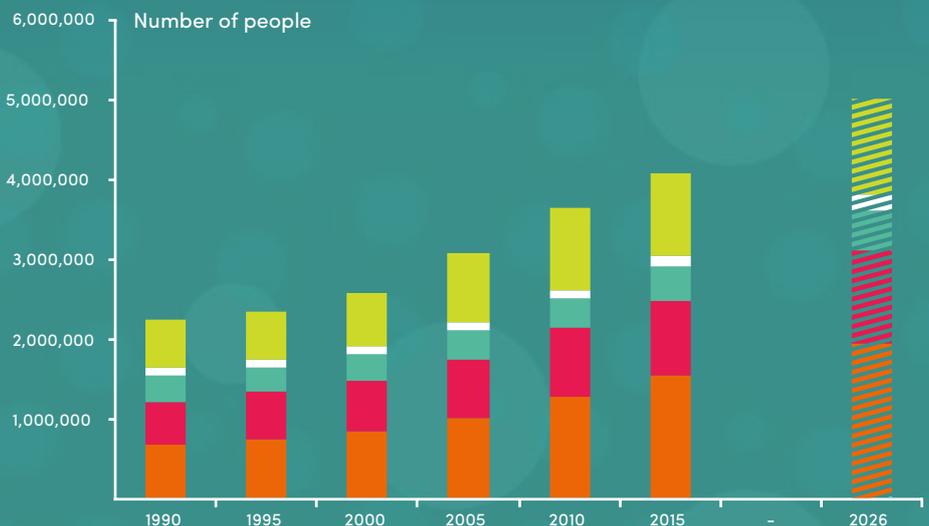
Figure I: Share of Australian exports to China under Scenario Two, selected industries.

- Mining
- Healthcare and Social Assistance
- Education and Training
- Accommodation and Food Services
- Financial and Insurance Services



Figure J: Employment in selected industries, Baseline Scenario.

- Construction
- Tourism
- Financial Services
- Education and Training
- Healthcare and Social Assistance





Rising outbound investment

Rising outbound investment is also part of the Chinese rebalancing story. Our third modelling scenario, Accelerated Rebalancing and Capital Account Opening, adds an additional foreign direct investment stimulus from China of 10%, consistent with recent experience of rising inbound investment. The stimulus is assumed to be spread evenly across all Australian industries.

The modelling indicates that residential and commercial construction and construction services would benefit the most from an increase in Chinese investment. A 10% increase in foreign direct investment inflows from China could create an additional 17,219 jobs in the construction industry (on top of the nearly 160,000 jobs that would have been created anyway) by 2026 (**Table B**).

The direct economic impact on the construction industry under Scenario Three is the largest identified in our modelling. Under this scenario, the demand for labour to meet the needs of the construction industry even has the secondary impact of drawing labour away from other industries, including those that would otherwise benefit from rising demand from China.

New jobs creation

It must be recognised that the results reported are based on current policy settings that are subject to change. However, our modelling projections, together with current trends for growth in China and Australia and demographic changes, suggest that close to one million new jobs could be created in the five key industries of financial and insurance services, healthcare and social assistance, education and training, tourism, and construction by 2026.

This represents a 22% increase over current employment levels, and would represent the fastest growth rate in employment, over a 10-year horizon, seen in the past 25 years.

Figure J highlights the employment outcomes suggested by a continued moderate expansion of China's economy, alongside forecast growth in the domestic Australian economy. The most significant increase is seen in healthcare and social assistance, which currently employs almost 1.5 million Australians.



Table B: Comparison of results under Scenarios One and Three, construction sub-industries.

2015	2026	
	Scenario One – Baseline Scenario (5–9% export growth to China)	Scenario Three – Accelerated Rebalancing and Capital Account Opening (+10% Chinese inbound direct investment)
Construction services		
Output: A\$124 billion % of economy: 4.5% Employment: 690,683	1.93% annual output growth 112,744 total employment growth	+ 0.11% additional growth + 8,889 additional jobs
Heavy and civil engineering construction		
Output: A\$113 billion % of economy: 4.1% Employment: 81,716	0.84% annual output growth 886 total employment growth	+ 0.13% additional growth + 1,034 additional jobs
Residential building construction		
Output: A\$83 billion % of economy: 3.0% Employment: 187,861	2.76% annual output growth 45,994 total employment growth	+ 0.25% additional growth + 6,260 additional jobs
Non-residential building construction		
Output: A\$51 billion % of economy: 1.9% Employment: 72,572	0.51% annual output growth –324 total employment growth	+ 0.14% additional growth + 1,036 additional jobs



Conclusions

The future of the Australia-China trade relationship is one of both opportunity and challenge.

Key opportunities lie in industries, other than mining, that align with China's likely growth profile. As the terms of trade boom wanes, income from non-mining exports is not expected to fully replace the decline in mining export income. However, the gains from Australian services exports to China are expected to be more evenly distributed across the economy of the future.

Services already account for around 75% of Australia's economic output and some 85% of employment. The industries that are sensitive to Chinese demand account for a large proportion of the Australian economy.

Given the dominance of the services sector in Australia – and the fact that services industries are more labour-intensive than mining – growth in services exports to China offers the potential for broad-based economic gains.

The rising Chinese middle class presents an opportunity to broaden and deepen the Australia-China bilateral economic relationship in the generations to come.

The ability to capitalise on Chinese demand will be contingent on policy decisions, such as visa and investment policy, foreign investment screening thresholds, export finance and insurance, and on the implementation of the China-Australia Free Trade Agreement.

Implications for Australian businesses

The projections in this report should not be treated as concrete forecasts, but rather as a way of gauging the magnitude of various industries' responses to a shift in China's demand profile.

The projections suggest that rebalancing may lead to significant employment gains in the education and tourism industries, and that capital account opening is likely to benefit the construction industry most in terms of both employment and output growth.

Of most consequence, however, is the rapid rise in the share of future Australian exports that will go to China, at the expense of the rest of the world.

The tailing off of China's domestic investment boom has coincided with a decline in Australia's terms of trade, a weaker Australian dollar, and downward pressure on national income and taxation revenues. Industries sensitive to Chinese demand must now align with the future growth composition of Australia's dominant trading partner.

The growth of Chinese export market share in industries like education and tourism is evident, but strains are already beginning to show. Overexposure to a single market may be a risk, both in terms of a sudden economic downturn or the perceived value of diversity in a service offering – for example in higher education.



The growth of the services sector will require labour force adjustment, with competition for skilled workers likely to intensify over the next decade. Businesses may need to work harder to retain older workers and to lift the female participation rate. The capacity of Australian industry to meet increased demand cannot be taken for granted.

Tapping into Chinese demand may require changes to industry practice and thinking. Expanding trade in services requires catering to specific customer tastes and requirements, well beyond any level of customisation in mining or agricultural trade. Where businesses do not have the required skills to service this new consumer market, they will need to implement strategies to proactively develop them.

Challenges will likely also originate from outside Australia. Many countries are aggressively courting the Chinese education and tourism dollar.

In addition, as China moves up the global 'value chain', it is increasingly competing with (rather than simply buying from) advanced economies in knowledge-intensive goods and services. In fact, large, capable Chinese services firms are already expanding to other countries in the Asia-Pacific region, including Australia.

Australia is in the global top 20 of countries ranked by their export exposure to China, with a greater level of export concentration than most other developed or high-income emerging market economies.ⁱⁱ

The last time that a single export market was this important to Australia was more than half a century ago, in 1952–53, when the United Kingdom was the destination for almost 40% of Australian merchandise exports.ⁱⁱⁱ

What the analysis in this report has demonstrated is that, even with a relatively conservative forecast for Chinese economic growth, China appears set to remain Australia's dominant trading partner.

Given this export exposure, the potential for continued stimulus to the Australian economy from rising household consumption in China is substantial. But are we prepared for the day when 25% or more of Australia's services exports will be destined for China?

When the commodity boom began in the early 2000s, it was difficult to foresee the magnitude of the impact it would have on the Australian economy.

The possibility of a similar story being written about healthcare, education, tourism, financial services, and construction ten years from now seems clear.



Part 1 Introduction

China is increasingly important to Australia's economy

China's economic rise is a defining feature of our time. Australia, as one of the most open economies in the Asia Pacific region, has participated in, and benefited from, China's increasing openness to trade and investment.

The 2014 Australia-China Trade Report, commissioned by the Australia China Business Council, found that one in 58 Australian workplaces is involved in direct exports to China. Furthermore, nearly 200,000 Australian jobs are sustained by direct exports to China.

In the first decade of the 2000s, China's rapid economic development generated large increases in demand for Australian resources, such as iron ore and coal. Rising export prices (along with falling import prices) boosted Australia's terms of trade and contributed to increased purchasing power. One estimate suggests that the 'mining boom' boosted real per capita household disposable income by 13% and raised real wages by 6% in the decade to 2013.^{iv}

In addition, growing investment flows between Australia and China have enabled both countries to expand on their established trade ties.^v Financial linkages between China and Australia have expanded, albeit off a low base.

The Australia-China bilateral trade and investment relationship is expected to deepen as a result of last year's signing of the historic China-Australia Free Trade Agreement (ChAFTA), which entered into force on 20 December 2015. ChAFTA will see 98% of Australian goods (by value) enter China duty-free once the Agreement is fully implemented over the coming decade (Box 1).^{vi}



Key features of the China-Australia Free Trade Agreement (ChAFTA).

- For agriculture, ChAFTA has completely eliminated tariffs on barley and sorghum, and will see a rapid tariff reduction on seafood, sheepmeat, pork and a variety of horticulture. Within a decade, tariffs on dairy, beef and wine will be completely eliminated.
- For resources, energy and manufacturing, 99.9% of Australia's exports will enjoy duty-free entry into China by the time of full implementation of the Agreement (1 January 2029).
- For services, ChAFTA delivers new, or significantly improved, market access for Australian banks, insurers, securities and futures companies, law firms, professional services suppliers, education services exporters, health and aged care suppliers, and construction, manufacturing and telecommunications services businesses in China.
- For investors, ChAFTA will promote further growth of Chinese investment into Australia, in particular by liberalising the Foreign Investment Review Board (FIRB) screening threshold for private Chinese investors in non-sensitive sectors from A\$252 million to A\$1,094 million.

Fast fact

Agribusiness is Australia's third largest export



The spectacular expansion of Australian resources exports to China this millennium has dominated the bilateral economic relationship.

Figure 1 charts the growth in Australian exports to China since 2000. China accounted for roughly one in three export dollars earned at the peak in 2013. By 2013-14, the total value of goods exported by Australia to China was close to A\$100 billion, with exports of iron ore alone worth A\$57 billion. Coal and liquefied natural gas (LNG) were the second and third largest merchandise exports to China.

Yet, the export potential and achievements of Australian exporters in many other industries should not be discounted. Although services is the largest sector of the Australian economy by both output (~75%) and employment (~85%) on conventional measures it comprises a relatively modest share of total exports.

However, the traditional data significantly underestimate services exports for two key reasons:

- Firstly, they do not capture the sale of services by foreign affiliates (i.e. overseas branches and subsidiaries) of Australian businesses. This is particularly relevant for financial services, which is the largest industry in the Australian economy.
- Secondly, they do not account for the critical role played by services embodied in the export of goods – for instance, the provision of agricultural services in the export of agricultural goods.

China is, by far, Australia's most important trading partner

China is Australia's largest two-way trading partner in goods and services, and by a significant margin. In 2014-15, two-way trade with China was valued at A\$149.8 billion (22.7% of Australia's total trade with the world). This is more than double the value of trade with Japan, Australia's second-largest trading partner.^{viii} As a share of Australia's total trade with the world, trade with China has expanded at a phenomenal pace, while the shares attributable to more 'traditional' trading partners – the United States, Japan and the European Union – have declined (**Figure 2**).

Importantly for Australian businesses and households, China today is Australia's largest export market, purchasing A\$90.3 billion of goods and services in 2014-15.

China's growth rate is slowing – but in dollar terms, GDP is growing as fast as ever

In 2015, China's economic growth rate (in real terms) was 6.9%, the lowest figure in a quarter of a century. Although the rate of growth is slower now than a decade ago, the absolute size of the Chinese economy has more than doubled. Put numerically, in 2015 China's economy added US\$552 billion in additional nominal output.

In 2006, China's real GDP growth rate was 12.7%; however, this growth represented just US\$460 billion in additional nominal output. Each percentage point of real (inflation-adjusted) Chinese GDP growth today represents more than double the demand it did ten years ago (**Figure 3**).

As China reaches the end of a rapid phase of industrialisation and urbanisation, which lifted more than 800 million people out of poverty,^{ix} the growing middle class is driving increased consumption within the economy.

The Chinese middle class is expanding, as are imports

There are various estimates for the size of China's middle class. Goldman Sachs suggests that the 'urban middle' in China comprises 146 million people,^x while McKinsey puts the urban middle class figure in 2013 (comprising both 'upper middle' and 'mass middle' classes) at around 174 million households.^{xi} Regardless of the estimate, the consensus is that China's middle class is growing rapidly.

According to Credit Suisse, in 2015 the Chinese middle class comprised 109 million adults (almost five times the size of Australia's population) overtaking the United States to become the world's largest. Credit Suisse also reports that China has more people in the top 10% of global wealth-holders than any other country except for the United States and Japan.^{xii}

Figure 1: Composition of Australian exports to China.

Source: DFAT Country and Commodity Pivot Table 2006 to 2015; DFAT trade time series data. 'Minerals' here includes unprocessed and processed primary minerals.

- Total exports to China as proportion of world (RHS)
- Mineral exports to China (LHS)
- Other goods exports to China (LHS)
- Services exports to China (LHS)

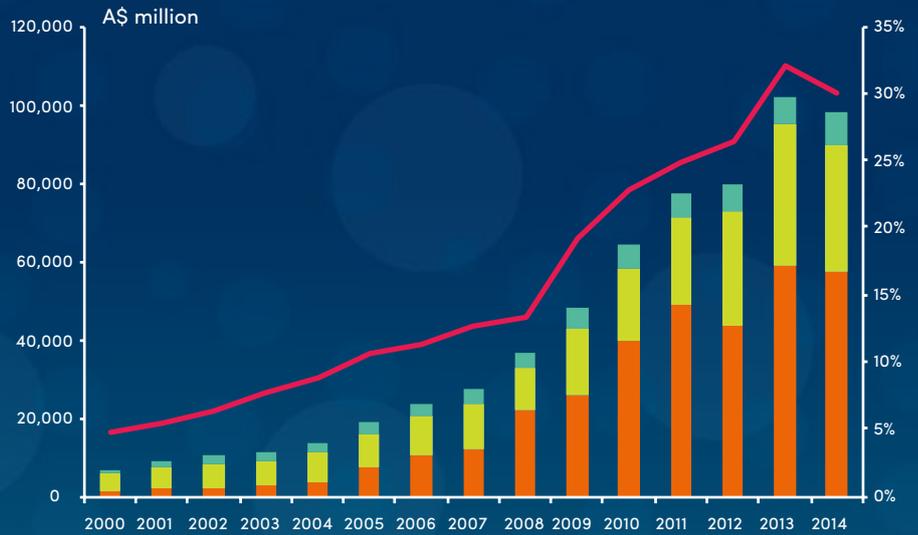


Figure 2: Share of Australian two-way trade (total goods and services) attributable to selected trading partners.

Source: DFAT 'Australia's Direction of Goods & Services Trade - Calendar Year', last updated June 2016. For services data, 'EU' (European Union) refers to the EU15 prior to 2004, EU25 from 2005 to 2006, EU27 from 2007 to August 2013, and EU28 from September 2013.

- ◆ China share
- ◆ United States share
- ◆ Japan share
- ◆ ASEAN share
- ◆ EU share



Figure 3: Growth in Chinese gross domestic product (GDP).

Source: IMF World Economic Outlook. Percentage growth rate in real Chinese GDP is calculated from constant Chinese yuan. Additional output year-on-year is calculated in nominal US\$ terms, and is subject to exchange rates effects.

- Additional output, nominal US\$ (LHS)
- Real GDP growth rate (RHS)





Figure 4: Composition of Chinese imports from the rest of the world.

Source: World Bank World Development Indicators. Merchandise imports are the cost, insurance and freight (CIF) value of goods received from the rest of the world. Service imports here are commercial service imports minus imports of government services not included elsewhere.

- Services: Travel services
- Services: Transport services
- Services: Insurance and financial services
- Services: Computer, communication and other services
- Goods: Other
- Goods: Ores and metals
- Goods: Manufactures
- Goods: Fuel
- Goods: Foods
- Goods: Agricultural raw materials

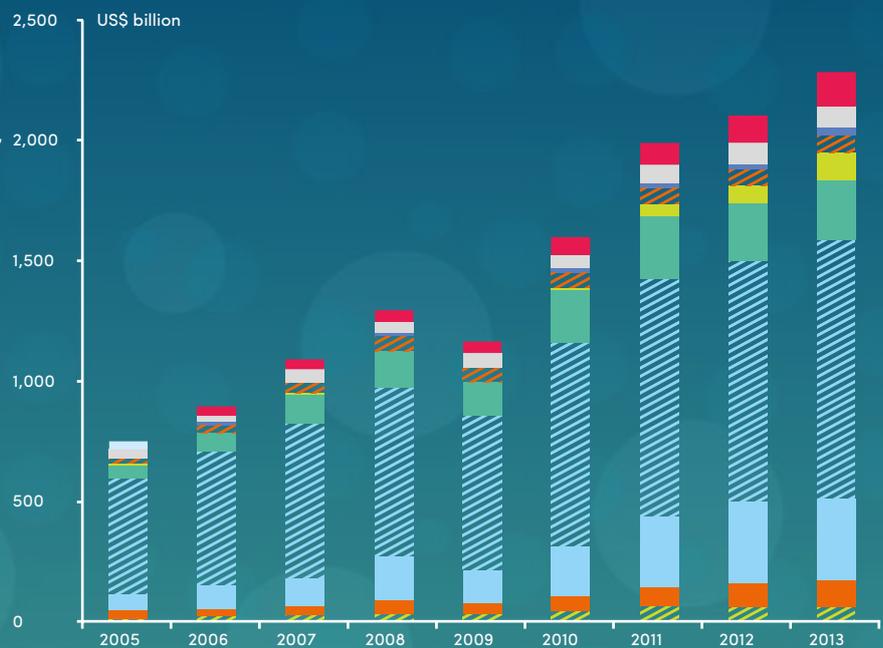


Figure 5: Comparative rates of growth for China's services sector, industrial sector and GDP.

Source: CEIC Data Company Ltd.; IMF Regional Economic Outlook for Asia and Pacific, April 2016.

- Nominal GDP growth
- Nominal growth of service sector
- Nominal growth of industrial sector



China's growing middle class

Wage increases, particularly in the cities and coastal areas, are lifting household income as a share of the economy. As the middle class expands, China's consumers are seeking higher-end products and services, like premium foods and beverages, consumer electronics, insurance policies and foreign holidays. Imports are increasing to satisfy this rising domestic consumer demand.

In absolute terms, China's imports have grown rapidly over the past decade (**Figure 4**). Manufactured imports (which include products like manufactured goods, machinery, transport equipment and chemicals) have declined as a proportion of China's overall import profile. There has been a small increase in imports of services, driven to a large extent by travel services (i.e. tourism).

China's economy is in transition

Since the market reforms initiated by Deng Xiaoping in the late 1970s, China has experienced rapid economic and social development. But in 2007, China's Premier Wen Jiabao famously described the country's development model as "unsteady, unbalanced, uncoordinated and unsustainable".

Until recently, China's real GDP growth was averaging nearly 10% per year – the fastest sustained expansion by a major economy in world history. The driving forces of growth in China have been rural-urban migration, the 'demographic dividend', exports and massive domestic investment. With industrialisation and urbanisation now relatively well advanced, and slowing export growth due to sluggish growth in the advanced economies, China's economic model and growth drivers are expected to shift towards a greater domestic consumption share that is typical of more 'mature' economies.

Consumption-led economy

China's shift can be defined along a few broad dimensions. First, there is ongoing rebalancing in output and employment from the public to the private sector, and away from low-end manufacturing toward services and higher-value production. Secondly, there is a deceleration in the overall rate of investment, and particularly investment in construction of infrastructure and housing.

As a result of these trends, private consumption is set to claim a larger share of growth and enable the Chinese economy to evolve from 'investment-led' to 'consumption-led.'

The further financial system reforms aiming to expand a limited social safety net, and reduction to the 'financial repression' that limits return rates on household savings, may help reduce China's high savings rate and spur consumption.^{xiii}

The Chinese authorities have embarked on this process of economic 'rebalancing'. On the demand side, the International Monetary Fund (IMF) forecasts that consumption in China will grow faster than investment. Consumption of services is expected to remain particularly strong (**Figure 5**). If successfully executed, this transition will make growth in China more sustainable over the medium term, benefiting the regional and global economy.

However, the economic transition is also causing disruptive changes to the Chinese manufacturing sector, as industries such as steel and shipbuilding face major consolidation to reduce excess capacity.^{xiv} In 2011, China's services sector overtook manufacturing to become the country's biggest employer.

Chinese rebalancing will have implications for the composition of Australian exports

One of the main ways that resource-exporting economies adjust to a surge in demand for resources is through appreciation of the real exchange rate. The rising strength of the Australian dollar in the first decade of the 2000s – coupled with relatively high wages in the mining industry – saw a shift in employment towards mining-related activities and a reduction in the competitiveness of other trade-exposed Australian industries.^{xv} According to one estimate, the end of the terms of trade boom has seen the loss of 46,000 mining industry jobs since 2013, with another 50,000 jobs still likely to be shed.

The 2014 Australia-China Trade Report found that the engine of Australian growth is now shifting from resources to other industries, which include agriculture, manufacturing and the services sector. China is already the largest purchaser of Australian agricultural products and education services, the third-largest buyer of Australian manufactured goods, and offers strong and growing demand for the Australian services sector.

Furthermore, financial system reforms that aim to expand a limited social safety net, and reduce the 'financial repression' that limits return rates on household savings, may help reduce China's high savings rates and spur consumption.



Australia-China trade will continue to shift from a mining focus to a more diversified relationship. In particular, this will mean an increasing share of Australian services exports bound for China, benefiting from commitments under ChAFTA and new digital technologies facilitating international business. As service industries are typically less capital-intensive and more labour-intensive than mining, future exports may create more jobs, meaning their benefits may be more evenly distributed across Australian industries, regions and business types.

The 2016-2026 Australia-China Trade Report

China today is undergoing significant structural change. While this transition may see bumps in growth along the way, ultimately the shift is a necessary step toward a more sustainable long-term pattern of growth.

China's economic transition has the potential to profoundly impact its trading partners. For Australia, it is paramount to identify the industries that will experience the next wave of Chinese demand. Equally important is how businesses and policymakers can best position Australia for a world of slower but more diversified demand growth for Australian goods and services.

This report aims to explore the issues associated with China's rebalancing by examining the Australian economy's likely reaction to shifts in Chinese demand for Australian exports. This is achieved by utilising a multi-industry computable general equilibrium (CGE) model to apply 'shocks' to the domestic Australian economy relating to different possible scenarios for China's growth. In Part 2 of this report, the scenarios are described in Section 8. Section 9 presents the high-level results of the modelling work. Sections 10 to 16 delve deeper into several key industries, and describe the projected effects in terms of output, exports and employment.

A\$183.4 bn

total value of two-way trade between Australia and China as at 2019

24%

of total trade in Australia comes from China, 2017-18

1,400,000

total number of Chinese visitors in Australia each year, 2017-18

A\$41 bn

China remains Australia's fifth-largest direct investor with a total stock value of \$41 billion in 2017

5.1%

Chinese FDI grew 5.1% in 2017 and experienced an average growth rate of 19% each year since 2011

A\$10.9 bn

China is Australia's most valuable tourism market, with total visitor spend reaching \$10.9 billion in the 12 months to March 2018, up 12.9% on the same period in the previous year

Source:

- Australia China Business Council, The Benefits of Chinese Investment: Some Victorian. March 2019 Examples
- Australian Government Department of Foreign Affairs and Trade: China Insights. Connecting Australian business to the world.
- Australian Government, Austrade Annual Report 2017-18

Part 2 Analysis

Scenario analysis

China's headline GDP growth rate is one of the most closely watched indicators in international economics. After averaging 10% real GDP growth for the three decades through 2010, growth has now decelerated for five straight years.

In 2015, real GDP expanded at a rate of 6.9%, and China's leadership has set a 6.5%–7% growth target for 2016.^{xvii} A declining growth rate is to be expected for a country that has reached middle income status as the second-largest economy in the world.

It is difficult to say with any certainty how quickly the Chinese economy will grow over the coming decade. Equally difficult is predicting the composition of that growth, with the mix of consumption, investment, imports and exports likely to evolve over time. The composition of growth is an important factor in understanding the future potential demand for Australian products and services. China's overall growth rate may slow, but if this comes about through a gradual decline in domestic investment whilst the rate of domestic consumption growth increases, China is likely to remain a strong source of demand for products and services from the rest of the world.

The Organisation for Economic Co-operation and Development (OECD) predicts a gradual deceleration of China's real GDP growth from above 6% this year to around 4% by 2026.^{xviii} Using the OECD forecasts as the baseline for our modelling exercise, we imagine three scenarios for China's future economic path:

1

Scenario one: Baseline Scenario

- Growth rate of Australian exports to China remains slightly higher than growth rate of Chinese GDP
- Transient boost to LNG exports in 2017 and 2018
- Moderate growth in productivity

2

Scenario two: Accelerated Rebalancing

- Added stimulus (on top of Scenario One) from extra Chinese demand for outputs from all industries except mining, with +2% Australian exports to China above Baseline

3

Scenario three: Accelerated Rebalancing and Capital Account Opening

- Accelerated rebalancing (as per Scenario Two) plus an additional foreign investment stimulus
- Stimulus is spread evenly across all Australian industries



Baseline Scenario

The Baseline Scenario (Scenario One) which is shown in **Figure 6**, assumes that the growth rate of Australian exports to China will be around 9% per annum in 2017 and 2018, boosted by a number of large domestic LNG projects coming on line.

After 2018, the growth rate of Australian exports to China tapers down from 6% to 5% by 2026, which is slightly higher than China's GDP growth forecast over the forward horizon. There are no other explicit changes to the composition of Australian exports assumed in this scenario.

^{xix}

Accelerated Rebalancing

Accelerated Rebalancing (Scenario Two) represents a slightly more optimistic view. It adds extra stimulus from consumption in China, driving greater demand for all Australian industries except for mining. This scenario makes the simple assumption that at any given price, China is willing to purchase 2% more Australian exports in each industry.^{xx}

Exports from the mining industry remain as per Scenario One. As investment growth in China declines, further growth in demand for Australian iron ore and other minerals remains weak (but does not decline from current levels).

Accelerated Rebalancing and Capital Account Opening

Accelerated Rebalancing and Capital Account Opening (Scenario Three) considers a future in which there is both accelerated rebalancing in China (as per Scenario Two) and increased Chinese investment into Australia.

The continuing process of capital account liberalisation is likely to lead to a considerable increase in portfolio outflows from China, as well as some increase in foreign direct investment and banking-related flows.^{xxi} China currently accounts for around 3.5% of foreign direct investment inflows into Australia, but we assume that these inflows expand by 10%,^{xxii} implying an increase of 0.35% to total annual foreign direct investment inflows per annum.

This is consistent with recent growth rates. In Scenario Three, we assume that Chinese investment 'crowds out' some foreign investment from other sources, and so an investment stimulus of 0.175% (half of 0.35%) is applied. We assume that this stimulus is spread evenly across all industries.^{xxiii}

Modelling results

China's share of Australia's total exports (by value) has grown strongly over the past decade, from around 11% in 2006 to a peak of 33% in 2013/14. China's share has, however, declined over the past two years, largely as a result of the continued decline in commodity prices.

The modelling results suggest that China's share of Australian exports will once again resume its rise over the next ten years, as China continues to modernise and expand at a faster rate than the world economy as a whole (**Figure 7**). Under the Baseline Scenario, China will claim just over 31% of Australia's exports by 2026, up from around 28% at present.

A small degree of additional broad-based consumption growth (Scenario Two) would boost China's share of Australian exports by a further two whole percentage points, to around 33%. Thus, we can see that even small shifts in China's consumption demand have significant implications for the Australian economy and export community.

Figure 8 delineates Australian exports into goods and services. It shows Australian exports to China under Scenario Two (Accelerated Rebalancing) relative to the Baseline Scenario. A faster pace of rebalancing within China is likely to lead to a change in the composition of Australian exports, with exports of services growing at a faster pace than exports of goods. China's share of services exports could rise from 13.6% (or A\$9.6 billion) in 2015, to 24.2% (or A\$40.7 billion) in ten years' time under Scenario Two. In other words, by 2026 one quarter of every dollar earned in services exports could come from China.

Figure 6: Baseline Scenario modelling assumption for the growth rate of Australian exports to China through 2026, relative to official forecasts of Chinese real GDP growth (in constant prices).

Source: IMF World Economic Outlook Database (October 2015); OECD Economic Outlook No. 95 (May 2014); World Bank Global Economic Prospects (June 2015). Dotted lines are projections/forecasts.



Figure 7: Projections of China's share of Australian exports under three scenarios.

Source: Centre of Policy Studies and ACFS.

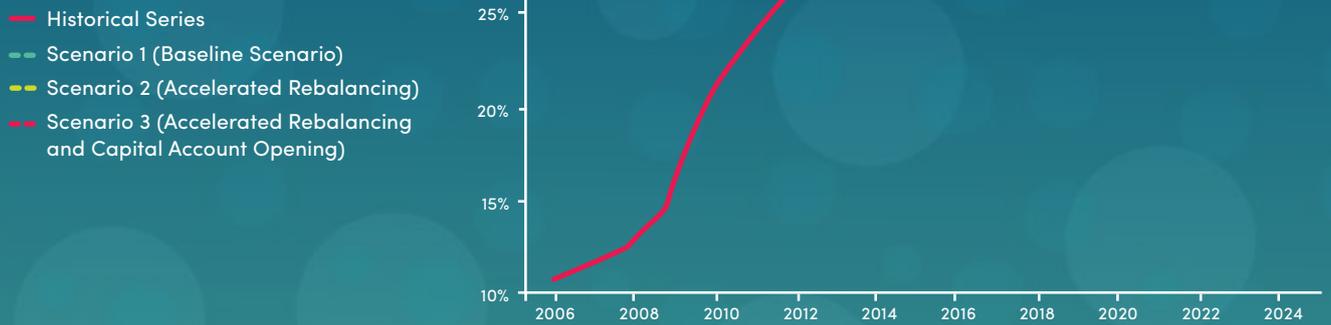


Figure 8: Increase in China's share of Australian goods and services exports attributable to a 2% rise in Chinese demand under Scenario Two.

Source: Centre of Policy Studies and ACFS.

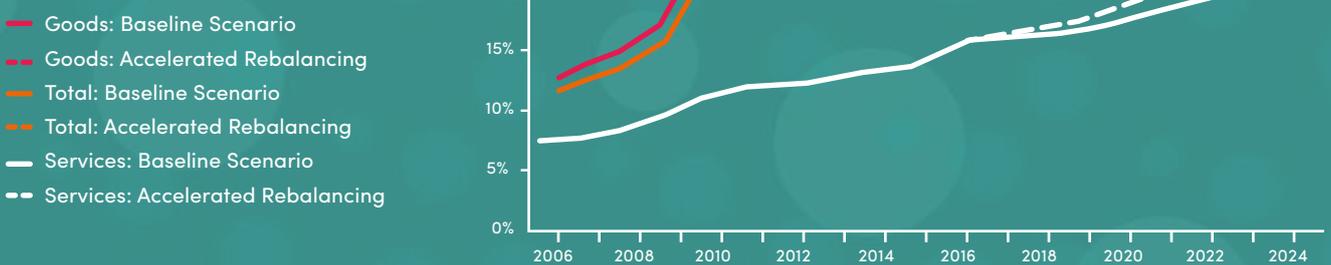


Figure 9: Projected growth in Australian goods and services exports to China, Baseline Scenario.

Source: Centre of Policy Studies and ACFS.



Figure 10: Projected share of Australian exports going to China under Scenario Two (Accelerated Rebalancing), selected industries.

Source: Centre of Policy Studies and ACFS.

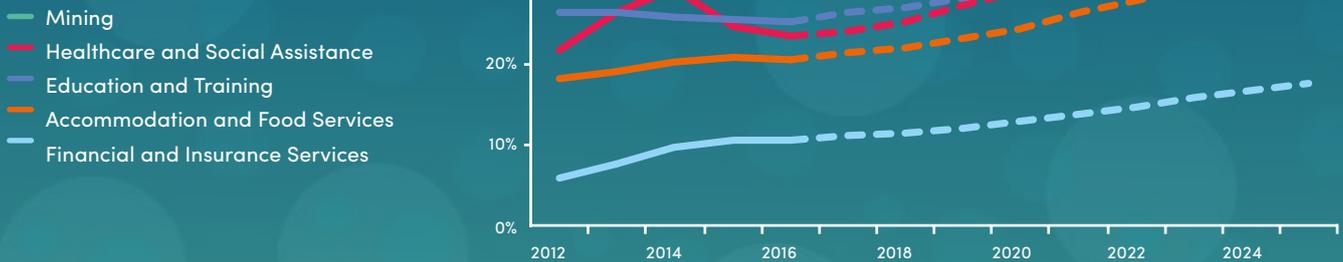


Figure 11: Composition of the Australian economy on a gross value added (GVA) basis, 2014-15.

Source: Australian Bureau of Statistics. The 'Other' category includes Electricity, Gas, Water and Waste Services; Wholesale Trade; Transport, Postal and Warehousing; Information Media and Telecommunications; Rental, Hiring and Real Estate Services; Professional, Scientific and Technical Services; Administrative and Support Services; Public Administration and Safety; Arts and Recreation Services; Other Services; and Ownership of Dwellings.

- Agriculture, Forestry and Fishing
- Mining
- Manufacturing
- Construction
- Retail Trade
- Accommodation and Food Services
- Financial and Insurance Services
- Education and Training
- Healthcare and Social Assistance
- Other

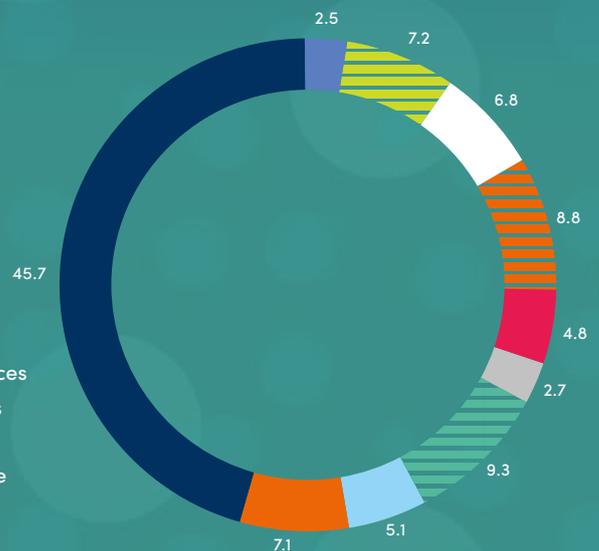


Figure 9 presents the same information as the Baseline Scenario, except in nominal dollar terms. Growth of Australian services exports relative to goods exports is seen even under this conservative scenario. By 2026, the modelling results suggest that 19% of the value of Australian exports to China could be services, nearly double the level in 2015 when just 9.6% of Australian exports to China were in services.

The impact of China’s future growth trajectory can be further investigated by taking this analysis to the industry level. In the following sections, this report examines industry growth over the next decade (to 2026) and assesses which industries are most sensitive to demand from China.^{xxiv}

Services industries may see the largest benefits from Chinese economic rebalancing

The growth of services exports relative to goods exports has important implications for the future of Australian industry. Goods production tends to be an arm’s-length affair. In Australia’s “rocks and crops” trade, iron ore, wheat, coal and wool do not change significantly as products based on their export destination. Thus, although the share of Australian goods exported to China rose exponentially over the past 15 years (dominated by primary production) Australian producers by and large were not compelled to change the nature of their product offering to appeal to the Chinese market.

Services exports are different. They tend to represent interactions between people – often at a retail, not wholesale level. Thus, consumer tastes dictate the success or failure of the exported service in a particular market – whether they be educational services, retail services, tourism, financial products or healthcare.

Under Scenario Two, a number of major industries in Australia could see a doubling of China’s share of their export market (**Figure 10**).

The healthcare and social assistance industry sees the fastest rate of projected growth, from 25% export market share headed to China at present to around 47% in 2026. The education and training industry follows closely behind, with China projected to claim close to 41% of Australian educational exports in 2026 compared with 26% at present. Accommodation and food services – of which short-term accommodation for visitors (i.e. tourism) is a major component – sees China projected to claim 35% of Australian exports in 2026, up from 21% at present. While financial and insurance services exports to China lag behind other industries, an increase to 19% Chinese export market share by 2026 is a significant boost from 11% at present, and just 3% five years ago.

The modelling results indicate that industries which are sensitive to Chinese demand (i.e. which show significant change in output, exports or employment in response to a demand shock under Scenario Two or Three) comprise at least half of the Australian economy (**Figure 11**). Almost all respond positively, in output terms, to rising Chinese demand – although manufacturing generally does not. The parts of the Australian economy that will benefit from rising Chinese demand go far beyond the mining industry, which presently accounts for just 7.2% on a gross value added basis.

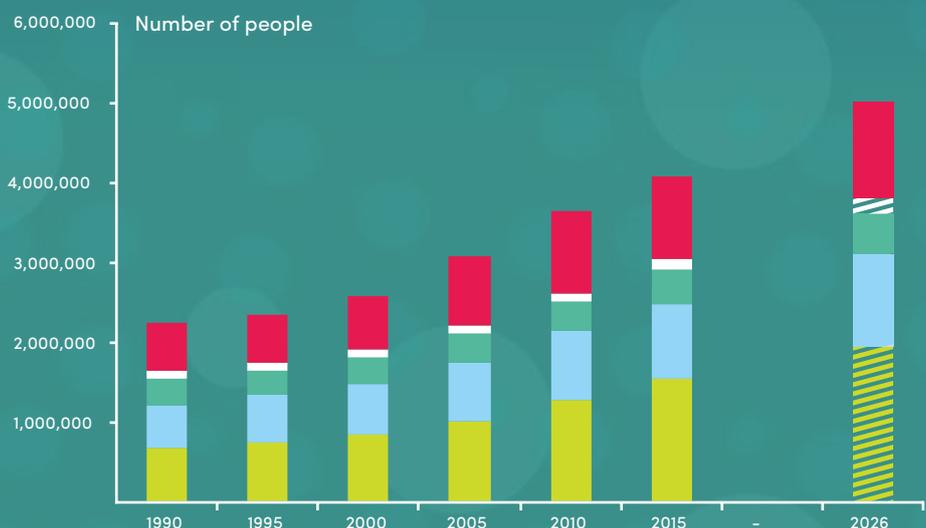
Our modelling projections, together with current trends for growth in China and Australia and demographic changes, suggest that close to one million new jobs could be created in the five key industries of financial and insurance services, healthcare and social assistance, education and training, tourism, and construction by 2026. This represents a 22% increase over current employment levels, and would represent the fastest growth rate in employment, over a 10-year horizon, seen in the past 25 years.

Figure 12 highlights the employment outcomes suggested by a continued moderate expansion of China’s economy and forecast growth in the domestic Australian economy. The most significant increase is seen in healthcare and social assistance, which currently employs almost 1.5 million Australians.

Figure 12: Employment in selected industries, Baseline Scenario.

Source: Centre of Policy Studies and ACFS.

- Construction
- Tourism
- Financial Services
- Education and Training
- Healthcare and Social Assistance





Healthcare

China presents an enormous opportunity for the healthcare and social assistance industry

There are over 200 million people in China aged over 60. The Chinese government has increased its investment in aged care, and improved policies and regulations to encourage private investment in the senior living sector. At the same time, cultural and social attitudes towards aged care are shifting.

Since launching an ambitious program of health reform in 2009, China has aimed to enhance the quality of its healthcare and achieve universal health coverage (UHC). However, important gaps in quality of care persist, not only in the primary healthcare system but also in hospitals.^{xxv} China's rapid industrialisation has burdened its environment with highly toxic levels of pollution, affecting its air and water. Beyond the physical environment, lifestyle changes also affect public health – China's people now smoke a third of all cigarettes consumed in the world.

Despite significant advances, China still spends less than the global average on healthcare. Australian providers may have a competitive advantage in offering services such as diagnostics, quality assurance/quality control, general practitioner training, and related areas such as health information technology. China has witnessed growing interest from international aged care service providers, mainly from the United States, Japan and Australia.^{xxvii}

ChAFTA has given Australian providers unprecedented access to the Chinese market, including permission to establish foreign-owned hospitals, clinics and aged care facilities in certain provinces and municipalities, as well as stronger protections for intellectual property.^{xxviii}

The Australian healthcare and social assistance industry is projected to be among the biggest winners from expanding Chinese demand over the next ten years, consistent with the expectation of an ageing population. Under the Baseline Scenario (Scenario One) the industry is projected to grow at 3.36% per annum over ten years and add 493,000 new jobs (34% above the present number). Significantly, China is projected to grow its share of the Australian export pie from 25% to 42%. This share could rise as high as 47% under Scenario Two, or 46% under Scenario Three (although the marginal impact on employment is modest).^{xxix}



Education

The education industry may benefit from growing Chinese demand, although supply-side constraints are emerging

Education is already Australia's third-largest export, after iron ore and coal. The most recent available data suggest that Australia is the third-most popular destination for outbound Chinese students, behind the United States and the United Kingdom.^{xxx} As of 2015, China accounts for roughly one quarter (26%) of education services exports – far ahead of the second-largest contributing nation, India, at 11%.^{xxxi} Approximately 124,000 Chinese students were studying in Australia in the first quarter of 2016.

The Australian education and training industry is projected to expand significantly over the next ten years, with an additional 227,000 jobs being created under the Baseline Scenario. China's share of Australian exports will grow from 31% to 42% in the primary/secondary sector, and from 26% to 36% in the tertiary/vocational sector, suggesting that demand from Chinese students is one of the major drivers of this growth. Boosting Chinese demand by just 2% per annum above the baseline (under Scenarios Two and Three) results in China claiming a 5% larger share of the export pie.^{xxxii}

However, there will be challenges in securing opportunities for continued rapid export growth in this industry. Recent research suggests that Australia may be an expensive destination in terms of course fees and cost of living.^{xxxiii} Meanwhile, competition in the provision of international education is increasing globally. Many countries in Asia (including China) and the Middle East are seeking to develop their own world-class capacity in higher education and research, and the digital economy is broadening the options available to students.^{xxxiv} Australian education providers will need to focus on both the cost and quality of their services to benefit from further growth in international student numbers.

Finally, Australia will need to address capacity constraints in higher education within Australia, where foreign enrolments already comprise a high percentage of the student body in courses such as business and commerce.



Tourism

The tourism industry will also benefit – although a boom in Chinese visits will create new pressures

Approximately 952,000 Chinese visitors travelled to Australia in 2015, with 511,000 doing so for a holiday. China was the second-largest source of foreign visitors, behind New Zealand. Tourism Research Australia forecasts China’s share of total visitors to Australia is expected to grow from 13% in 2014-15 to 18% by 2024-25. This growth rate would see China overtake New Zealand as Australia’s largest international market by arrivals in 2019-20.^{xxxv} Importantly, Chinese visitors spend more in Australia on average than visitors of any other nationality, and are more likely to buy Australian products and services after they return to China.

The modelling data do not neatly distinguish tourism services from other industries such as hospitality. However, some useful insight can be gleaned from looking at the ‘accommodation’ sub-industry, which consists of the provision of accommodation to visitors (e.g. hotels, motels and similar units). China currently accounts for 21% of Australian accommodation exports, but its share is projected to increase to 30% by 2026 under Scenario One, or 35% under Scenarios Two and Three. In other words, Australia’s tourism industry is highly sensitive to a small (2%) increase in Chinese demand.

Outbound travellers from China now lead the world in total international tourism expenditure. As a result, there is strong competition amongst countries to attract visitors from China. In 2014, Australia claimed approximately 0.7% of China’s outbound tourist market, compared to the United States and France at around 2% each.^{xxxvi}

Even as airline capacity grows, and more direct services are established between Australian and Chinese cities, the boom in Chinese visits will require investment and (re)training. Australia’s ability to accommodate rising Chinese demand will depend on the quality of its tourism infrastructure and, perhaps most crucially, its ability to find sufficient labour with adequate cultural knowledge to service a growing Chinese market that is demanding increasing differentiation in how to experience Australia.^{xxxvii}

Tourism

30%

Projected proportion of Australian short-term accommodation exports going to China in 2026 (Scenario One)



21% Proportion of Australian short-term accommodation exports going to China in 2015

Education

36%

Projected proportion of Australian education exports going to China in 2026 (Scenario One)



26% Proportion of Australian education exports going to China in 2015

Healthcare

42%

Projected proportion of Australian healthcare/social assistance exports going to China in 2026 (Scenario One)



25% Proportion of Australian healthcare/social assistance exports going to China in 2015



Financial services

Financial services exports to China will expand, but the data do not tell the whole story

Financial services is Australia's single largest industry, contributing more gross value added to the Australian economy than even the mining industry. It is a major employer of Australian workers and the largest single contributor to corporate tax receipts. In China, however, the financial services market remains underdeveloped. Since China's accession into the World Trade Organization (WTO), China's financial services industry has progressively opened up to foreign participation.^{xxxviii} Nevertheless, it has proven challenging for foreign companies to successfully do business in China.

ChAFTA secures an unprecedented range of financial services commitments from China, creating new commercial opportunities for Australian banks, insurers and securities firms. For instance, for the first time in a free trade agreement, China has committed to allow Australian insurers access to its third-party motor vehicle insurance market without form of establishment or equity restrictions. The bilateral relationship has been deepening in other areas too; recent years have seen the launch of an official Australian renminbi clearing bank, as well as an agreement for direct convertibility between the renminbi and the Australian dollar.

Like healthcare and education, financial services will be a driver of Australian economic growth over the next decade. The industry is projected to expand its output by 2.9% per annum under the Baseline Scenario (Scenario One) adding 111,000 jobs (a 27% increase) by 2026. China's share of the financial services export pie is projected to grow from 11% to 16% in 2026, or to 19% under the more optimistic projections (Scenarios Two and Three).

^{xxxix}

It is important to reiterate that the official data (which form the basis for this report's modelling) do not ordinarily capture the majority of financial services provided offshore by Australian multinational companies. Of the four 'modes' of services exports, the 'foreign affiliate sales' mode – or sales that occur offshore through an offshore branch or subsidiary of multinational firms – are not counted in official export data.

As such, the revenues being earned by Australian banks, insurers and wealth managers in their China mainland branches and subsidiaries are not counted.^{xl} In addition, the modelling does not account for the important role that the financial industry plays in intermediating capital flows between China and Australia.



Construction

The construction industry is sensitive to Chinese foreign investment

Infrastructure investment in China has increased significantly in recent decades and has been a major contributor to economic growth. Construction services are needed for projects across municipal infrastructure (such as urban roads and bridges), utilities (such as water and electricity), transportation (such as highways and rail) and social infrastructure (such as schools and hospitals). The Chinese authorities plan to facilitate more urbanisation in the coming years – although at a slower pace than in recent times – which should create further demand for infrastructure.^{xxxix}

While contributing to China's ongoing infrastructure build remains an opportunity for Australian firms, investment from China into Australia is also part of China's rebalancing story. The past several years have seen a rising tide of Chinese investment into Australia, with recent reports indicating that Australia may be the second-most popular destination for Chinese direct investment, after the United States. Of the A\$15 billion estimated Chinese inbound investment to Australia in 2015, 45% was invested in the real estate sector.

This trend of rising Chinese investment in Australian real estate has important economy-wide implications. The results of Scenario Three (that assumes a 10% increase in Chinese direct investment into Australia) suggest a dramatic impact on the construction industry, boosting output by an additional 0.15% per annum and generating an additional 17,200 jobs by 2026. In fact, this is the most significant impact in terms of output and employment seen in all of the industries examined in the modelling work.

Importantly, this investment stimulus would tend to favour capital creation activities, drawing employment away from other industries – reminiscent in some ways of the mining boom in the earlier part of this century.

Best and worst performing (sub)industries

The data allow a further breakdown of the Australian economy into approximately 115 smaller industrial segments, which this report refers to as 'sub-industries'.^{xliii} For instance, the education industry can be separated into three sub-industries: primary and secondary education services; technical, vocational and tertiary education services; and arts, sports, adult and other education services. This finer level of granularity allows us to examine the composition of the Australian economy with even more precision.

Under the Baseline Scenario (Scenario One) with no explicit stimulus from Chinese rebalancing, the sub-industries that experience the fastest growth to 2026 are oil and gas extraction and various types of specialised manufacturing, which are all projected to grow at rates of around 5% or higher. Output from the motor vehicles and parts sub-industry is projected to contract at an annual rate of 9.3% (Table 3).

Table 3: Best and worst performing Australian sub-industries in terms of projected annual growth in real output (%) to 2026, Baseline Scenario.

	Average annual growth rate (%) Baseline Scenario
Top five industries	
Oil and gas extraction	+ 6.52
Tanned leather, dressed fur and leather product manufacturing	+ 5.89
Specialised and other machinery and equipment manufacturing	+ 5.15
Basic chemical manufacturing	+ 4.95
Air and space transport	+ 4.90
Bottom five industries	
Aquaculture	+ 0.84
Heavy and civil engineering construction	+ 0.84
Non ferrous metal ore mining	+ 0.80
Non-residential building construction	+ 0.51
Motor vehicles and parts; Other transport equipment manufacturing	- 9.27

Source: Centre of Policy Studies and ACFS.

Financial services

16%

Projected proportion of Australian financial services exports going to China in 2026 (Scenario One)



11% Proportion of Australian financial services exports going to China in 2015

Construction

17,200

Additional Australian construction jobs in 2026, if China increases its foreign direct investment flows into Australia by 10% (Scenario Three)

Figure 13: Sub-industries most affected by Accelerated Rebalancing in terms of change in projected real output growth (%) to 2026.

Source: Centre of Policy Studies and ACFS.

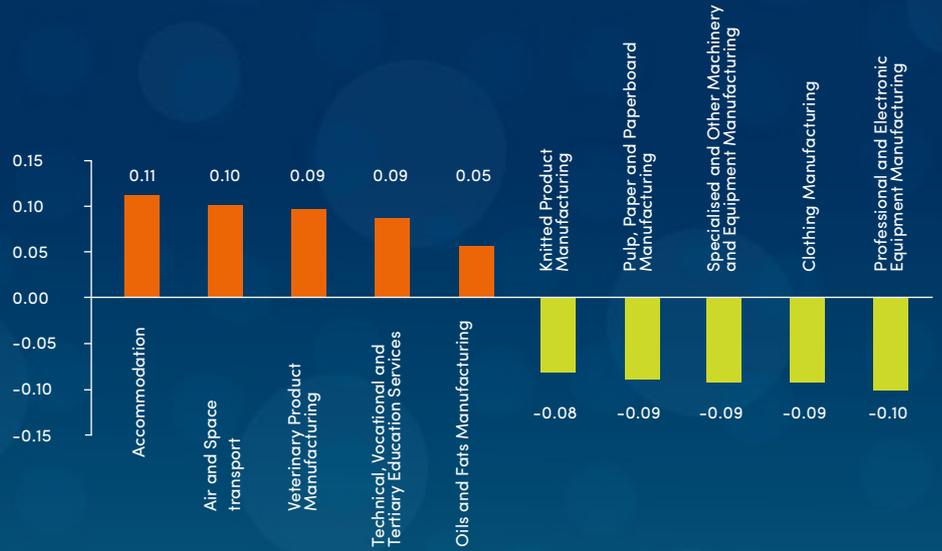


Figure 14: Best-performing Australian sub-industries in terms of additional employment in 2026 under Accelerated Rebalancing.

Source: Centre of Policy Studies and ACFS.

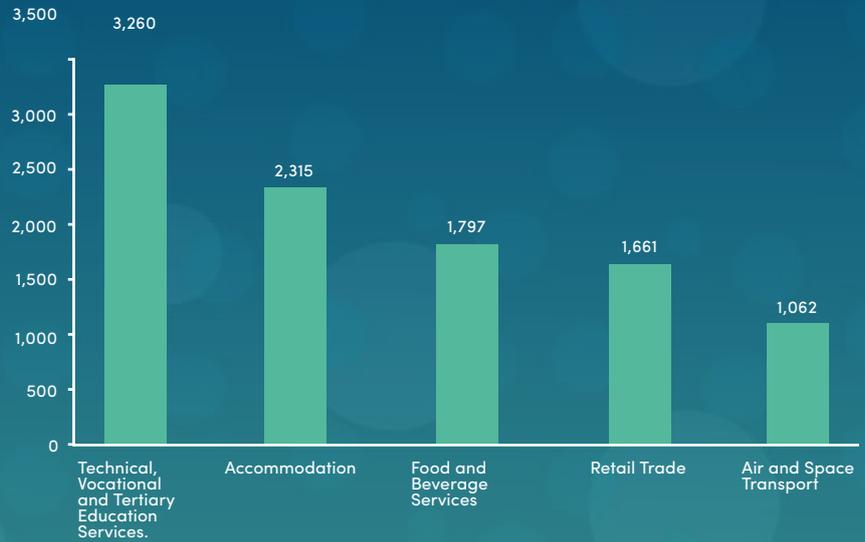


Figure 15: Best-performing Australian sub-industries in terms of additional employment in 2026 under Accelerated Rebalancing and Capital Account Opening (Scenario Three).

Source: Centre of Policy Studies and ACFS.



A rebalancing China, where more demand comes from domestic household consumption rather than domestic investment, affects different parts of the Australian economy in different ways. **Figure 13** shows the projected additional growth in output attributable to increased Chinese demand, under Scenario Two, on top of the growth that would have occurred anyway, for the most positively and negatively affected sub-industries.

The largest positive impact is seen in accommodation, which is a proxy for tourism. For every 2% increase in demand from China, the accommodation sub-industry experiences additional growth of 0.11% per annum. The worst-performing sub-industries are all in manufacturing. China overtook the United States in 2011 to become the world's largest producer of manufactured goods – but as manufacturing growth in China slows, factory production is likely to move to lower-cost locations such as Vietnam, rather than Australia.^{xiv}

Perhaps more pointedly, **Figure 14** shows the additional employment in 2026 attributable to increased Chinese demand under Accelerated Rebalancing. What this chart demonstrates is that a 2% increase in Chinese demand for Australian educational services could generate an additional 3,260 jobs in tertiary/vocational education alone; this represents a 3.6% increase in employment growth on top of baseline expectations.^{xiv}

The modelling results confirm the common perception that education and tourism are among the industries that stand to gain most from China rebalancing its economy towards greater household consumption.

Additionally, the modelling suggests significant upside for residential building construction and construction services from a scenario under which China's rebalancing is accompanied by increased outbound foreign direct investment (Scenario Three). Outbound investment has already expanded over recent years, and although China is far from Australia's largest investor, the rate of growth has been strong. Should this pace quicken, there is a strong likelihood of employment growth in construction and related industries (**Figure 15**). The modelling results indicate that a 10% boost to Chinese direct investment inflows would generate an additional 17,200 jobs across the construction industry in Australia by 2026, all else being equal.

Implications for Australian businesses

The projections suggest that rebalancing may lead to significant employment gains in the education and tourism industries, and that capital account opening is likely to benefit the construction industry most in terms of both employment and output growth. Of most consequence, however, is the rapid rise in the share of future Australian exports that will go to China, at the expense of the rest of the world. The tailing off of China's domestic investment boom has coincided with a decline in Australia's terms of trade, a weaker Australian dollar, and downward pressure

on national income and taxation revenues. Industries sensitive to Chinese demand must now align with the future growth composition of Australia's dominant trading partner.

The growth of Chinese export market share in industries like education and tourism is evident, but strains are already beginning to show. Overexposure to a single market may be a risk, both in terms of a sudden economic downturn or the perceived value of diversity in a service offering – for example in higher education. The growth of the services sector will require labour force adjustment, with competition for skilled workers likely to intensify over the next decade. Businesses may need to work harder to retain older workers and to lift the female participation rate.

The capacity of Australian industry to meet increased demand cannot be taken for granted – tapping into Chinese demand may require changes to industry practice and thinking. Expanding trade in services requires catering to specific customer tastes and requirements, well beyond any level of customisation in mining or agricultural trade. Where businesses do not have the required skills to service this new consumer market, they will need to implement strategies to proactively develop them.

Challenges will likely also originate from outside Australia. Many countries are aggressively courting the Chinese education and tourism dollar. In addition, as China moves up the global 'value chain', it is increasingly competing with (rather than simply buying from) advanced economies in knowledge-intensive goods and services. In fact, large, capable Chinese services firms are already expanding to other countries in the Asia-Pacific region, including Australia.

Australia is in the global top 20 of countries ranked by their export exposure to China, with a greater level of export concentration than most other developed or high-income emerging market economies.^{xlvii} The last time that a single export market was this important to Australia was more than half a century ago, in 1952-53, when the United Kingdom was the destination for almost 40% of Australian merchandise exports.^{xlviii} What the analysis in this report has demonstrated is that, even with a relatively conservative forecast for Chinese economic growth, China appears set to remain Australia's dominant trading partner.

Given this export exposure, the potential for continued stimulus to the Australian economy from rising household consumption in China is substantial. But are we prepared for the day when 25% or more of Australia's services exports will be destined for China? When the commodity boom began in the early 2000s, it was difficult to foresee the magnitude of the impact it would have on the Australian economy. The possibility of a similar story being written about healthcare, education, tourism, financial services, and construction ten years from now seems clear.

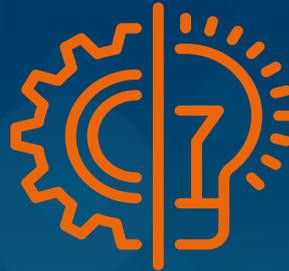
2018/9 update

Fast facts – trade & investment

Medical tourism



Japan, Thailand, South Korea and the US are listed as the top destinations for medical travellers from the Chinese Mainland



Strategic research and advisory firm Global Growth Markets (GGM) estimates that there are now **500,000** outbound Chinese medical travellers spending at least **\$10 billion** a year

China



The number of Chinese investments under \$10M is similar to the number of Chinese investments above \$100M whilst those between \$10M-\$100M are minimal.



<10%

Chinese investors are predominantly investing in urban areas, less than 10% are in rural areas



>\$40.4bn

Australia has received over \$40.4billion in Chinese direct investment between 2014 and 2017.

To qualify as direct investment, the investment must result in the investor holding at least 10% in the Australian equity.

In 2016-17 the services sector attracted the highest value of approved investment. This reflected an increase in value of \$31 billion – or more than twice the value – from those approved in 2015-16.

\$54.2bn



The 2016-17 FIRB approvals data also reveal a decline in the total number and value of approvals for Chinese applications – largely driven by reductions in residential real estate approvals.

76%

of the urban population in China will enter the middle income bracket by 2022.

Most significant sector for Chinese investment in 2017



12%

Healthcare was 12% of total ODI investment



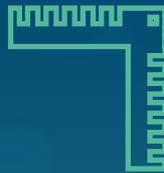
8%

Agribusiness was 8% of total ODI investment



35%

Mining was 35% of total ODI investment



4%

Infrastructure was 4% of total ODI investment



33%

Real estate was 33% of total ODI investment

12 Deals AU\$4.6bn

The mining sector saw 12 deals announced in 2017 totalling AUD 4.6 billion, a rise of 448 percent from 2016. This large increase was mostly driven by the AUD 3.4 billion acquisition of Rio Tinto's thermal coal assets by Yancoal. There was however a continuing investment focus on lithium, gold and non-ferrous metals.



Mining and real estate investments from China dominate the news but these sectors are not always the largest destinations for Chinese investment.



Mining accounted for a quarter of total Chinese investment received in the last 4 years

Aged care



Fastest growth in aged care sector in well developed provinces including: Beijing, Shanghai, Guangdong



Under the Au-China FTA, med service suppliers may establish wholly Australian owned profit making aged care institutions.

Education

\$28.6 billion

International Education is worth \$28.6 billion to the Australian Economy

2m Aged care workers

By 2020, Austrade estimate a shortfall of about 2m aged care workers. Opportunities exist for training in: Tailored training courses, on the job training, accredited training programs.

Sources:

Austrade
Chinese Investment in Australia (CHIA) Database
FIRB Annual report - 2016 - 17
McKinsey & Company
Medical Tourism (Chinese Outbound Tourism Research Institute)

Part 3

Appendices

Appendix 1

CGE modelling methodology

The 2016 Australia-China Trade Report seeks to build upon previous analyses of the Australia-China trade relationship. The majority of past analyses have been static in nature, in that they do not attempt to analyse second and third round effects on the economic structure of China's trading partners. For instance, most analyses do not account for the reallocation of resources (such as labour) and investment in Australia away from mining and towards other industries that will earn a higher rate of return in the future. The model employed for this report is dynamic, and thus offers a different point of view.

The analysis in this report is based on a detailed computable general equilibrium (CGE) model of the Australian economy. The Vic-Uni model, developed at the Centre of Policy Studies, consists of a theoretical framework describing supply and demand for goods and services, labour, capital, and land. The initial view of the economy is described by an input-output table, which embodies the production structure of every Australian industry and the sales structure of every commodity.

For this report, the model has been extended to distinguish China and 'the rest of the world' as separate destinations for exports. The model database has been extended using statistics from the Department of Foreign Affairs and Trade (DFAT) on exports of commodities by recipient country, and from the Australian Bureau of Statistics (ABS) on exports of services by recipient country.

CGE models are particularly useful for evaluating the impact of economic or policy 'shocks' on the economy as a whole. They attempt to reproduce, in the most realistic possible manner, the structure of the whole economy and the nature of economic transactions between producers, households, the government, and foreign countries. The model used for this report helps to evaluate economic changes whose impacts are expected to be complex and transmitted through various channels (e.g. through effects on trade flows, labour markets, and the exchange rate).

It must always be remembered that models are a simplification of reality. In addition, the predictive power of models tends to diminish over longer forecasting horizons. For this reason, we have supplemented the raw outputs of the modelling with our own analysis of the likely impacts on Australian economic output, exports, and employment, drawing on expert external research and opinion where relevant. The projections in this report can be thought of as the consequences of a 'business as usual' approach, assuming that there are no radical policy changes or major exogenous shocks.

Detailed description of the CGE model

As a CGE model, the Vic-Uni model accounts for both competitive and complementary linkages between industries. Where strong supply-chain linkages exist between industries, growth in one industry can provide a complementary stimulus to closely related industries. For example, growth in the mining industry stimulates growth in the construction industry. On the other hand, industries compete for resources. Growth in one industry may consume resources in demand by other industries, crowding out activity in these other industries. This is usually a transitory problem as the market adjusts. However, there is a constraint on the national supply of labour, so that factors that favour growth in some parts of the economy will generally lead to subdued activity in other parts.

The Vic-Uni model is a recursive dynamic model; that is, it is solved repeatedly with the solution for each year forming the starting point for the following year. Capital stock in each year is accumulated from investment in previous years, with industry-specific investment responding positively to movements in the rate of return.

The model features several decision-making agents – industries (which are referred to in this report as 'sub-industries', because they are narrower than ANZSIC divisions), investors, households, external trading partners (China and rest of the world separately identified) and government – making decisions on the supply and use of 'commodities' (corresponding to the sub-industries) and factor inputs, and whether to source commodity purchases from the domestic economy or trading partners. Three blocks of equations describe this process:

1. Agent decision-making equations, including equations describing:
 - 1.1 Cost minimisation by producers;
 - 1.2 Utility maximisation by households;
 - 1.3 Purchases by government, generally policy-driven;
 - 1.4 The allocation of investment funds in response to risk-adjusted rates of return; and
 - 1.5 External trade.
2. Equations describing the price system:
 - 2.1 Basic prices are derived from a zero pure profit condition on producers; and
 - 2.2 Purchaser prices are derived by adding relevant margins and taxes. Every agent in the model has a separate purchaser price identified for each commodity.
3. Market clearing equations to ensure supply equates to demand for every commodity.

Appendix 1

CGE modelling methodology

These equations are sufficient to endogenously determine the price and quantity of every produced commodity identified in the model. For non-produced commodities – factor inputs and imports sourced from outside Australia – these equations are sufficient to explain price or quantity, but not both. For these commodities, we assume:

- 1.1 That the national supply of land is fixed, although it may shift between uses;
- 1.2 That the national supply of labour is determined through a series of supplementary equations linking it to national population;
- 1.3 That the industry-specific supply of capital is determined through additional dynamic linkage equations to previous-period capital stocks and investment; and
- 1.4 That foreign currency prices of imports are exogenous to the model.

Finally, a block of macroeconomic accounting identities is included in the model for the reporting of variables such as GDP, the terms of trade, the real exchange rate, and other key macroeconomic indicators.

In addition to the exogenous variables in factor markets (the national population, and the short-run supply of capital) the ‘naturally’ exogenous variables of the model are those that are not explained by the equation blocks described. These include variables that:

1. Describe changes in production technology;
2. Describe changes in household tastes;
3. Describe changes in preferences for imported and domestic varieties;
4. Describe changes in government policy, including rates of taxation, budget position, and the composition of expenditure;
5. Describe international trading conditions in terms of shifts in export demand schedules, and foreign currency prices of imports; and
6. Describe changes in investor risk premia.

Data and calibration

To parametrise its equations, the model makes extensive use of the Australian input-output tables. However, as input-output tables are typically out-of-date by the time of publication, the database is regularly calibrated to the most recent available national accounts data on GDP, private and public consumption, investment, international

trade, the terms of trade, and industry value added, as well as other ABS data including population, participation rates, the unemployment rate, the wage price index, and the consumer price index (CPI).

By forcing the model to reflect observed macroeconomic and industry data in its updates from year to year, the process reveals structural change in the economy. For example, a ‘natural’ model simulation uses labour, capital, and productivity growth as inputs when determining GDP. However, if labour, capital, and GDP have all been observed, then the model treats productivity growth as an endogenous variable. In this way, calibration of the model reveals recent shifts in structural parameters of economic growth, such as changes in productivity, consumer preferences, savings rates, willingness to invest, and conditions in the world economy.

The Vic-Uni model forecasts are generated by solving the model in response to likely structural change, updating the database from one financial year to the next through a series of simulations. The ‘shocks’ to the model are based on a combination of:

1. Calibration to forecasts from expert bodies, including:
 - 1.1 The Bureau of Resources and Energy Economics (BREE,) for forecasts on value and volume of commodity production and exports;
 - 1.2 A combination of ABS and state demographer forecasts for state population forecasts;
 - 1.3 Intergenerational Report forecasts of the participation rate;
 - 1.4 Forecasts from the federal budget on taxation and government expenditure;
 - 1.5 Forecasts from the federal budget on other key measures, including the terms of trade and the unemployment rate;
 - 1.6 External forecasts (sources: OECD, IMF, World Bank) for economic growth in China;
2. An assumed rate of productivity growth based on recent experience in Australia and similar countries;
3. Significant announced changes in economic activity – for example, the closure of motor vehicle manufacturing plants in Victoria and South Australia;
4. Likely changes in construction activity revealed in building approval data; and
5. The continuation of some structural trends revealed in the database calibration process.

Appendix 2

Detailed industry results

	Healthcare and social assistance	Education and training	Financial and insurance services
Ave annual growth in output (%) – Baseline Scenario	3.36	2.68	2.90
Additional annual growth (%) – Scenario Two	+ 0.00	+ 0.04	+ 0.01
Additional annual growth (%) – Scenario Three	+ 0.00	+ 0.02	+ 0.01
Employment 2015	1,456,822	928,215	412,884
Employment 2026 – Baseline Scenario	1,949,787	1,155,133	524,008
Additional employment 2026 – Scenario Two	- 432	+ 3,425	+ 95
Additional employment 2026 – Scenario Three	- 391	+ 736	- 408
China share in exports 2015 (%)	25	26	11
China share in exports 2026 (%) – Baseline Scenario	42	36	16
Additional China share 2026 (%) – Scenario Two	+ 5	+ 5	+ 3
Additional China share 2026 (%) – Scenario Three	+ 4	+ 5	+ 3

	Construction	Mining (Resources)	Agriculture, forestry and fishing (Agribusiness)
Ave annual growth in output (%) – Baseline Scenario	1.59	1.60	1.24
Additional annual growth (%) – Scenario Two	+ 0.01	- 0.07	+ 0.01
Additional annual growth (%) – Scenario Three	+ 0.15	- 0.01	+ 0.00
Employment 2015	1,032,832	226,690	308,517
Employment 2026 – Baseline Scenario	1,192,133	231,011	364,577
Additional employment 2026 – Scenario Two	+ 91	- 2,750	+ 234
Additional employment 2026 – Scenario Three	+ 17,219	- 910	- 2,178
China share in exports 2015 (%)	5	62	12
China share in exports 2026 (%) – Baseline Scenario	11	68	15
Additional China share 2026 (%) – Scenario Two	+ 2	+ 0	+ 3
Additional China share 2026 (%) – Scenario Three	+ 2	+ 0	+ 3

Commentary

The projections indicate that some industries will have negative employment growth in response to greater demand from China (under Scenarios Two and Three). While this may appear counterintuitive, it is important to note that potential gains in employment are limited by the model's parameters, which assume a given future supply of labour as projected in the Australian government's Intergenerational Report and ABS forecasts.

The model allocates labour to where it is most efficiently deployed under a given set of assumptions. Strong gains in some industries (such as education and training and construction) may constrain the gains in other industries. In practice, we imagine that strong growth in the Australian services sector may attract increased skilled migration from abroad, broadening the pool of labour and further contributing to broad-based economic growth.

Appendix 3

Review of literature on economic spillovers

With China’s rebalancing now underway, attention is turning to analysis of the impact on economies for which China is a major export market, including Australia. The IMF reports that China’s slowdown has and will continue to affect commodity prices, impacting on commodity-exporting countries. It suggests that growth-neutral rebalancing in China is likely to result in negative short-term ‘spillovers’ to trading partners. For instance, a 1% increase in Chinese consumption growth and 1% decrease in Chinese investment growth have the greatest adverse impact on countries that are closely integrated with China through the global value chain, such as Taiwan and Korea (**Figure 16**). (New Zealand benefits the most from an increase in Chinese consumption demand). However, as rebalancing puts the Chinese economy on a more sustainable footing, these spillovers turn positive over the medium term.^{li}

Ma, Roberts and Kelly (2016) analyse the effects of a 15% ‘rotation’ in China from investment to consumption. As consumption is generally less import-intensive than investment, the impact on most trading partners is found to be negative (although there are a few exceptions, notably New Zealand). For Australia, the analysis suggests a mixed picture. A rebalancing of this magnitude will have a negative impact on the mining industry, which provides key inputs for Chinese manufacturing and construction. A number of Australian industries are positively affected – such as agriculture, education, and tourism services. However, the magnitude of the positive impact is only about 10% of the magnitude of the effect on Australian industries that are negatively affected.^{lii} Similarly, Kelly (2014) finds that dollar for dollar, Chinese investment appears to absorb more than twice as much Australian value-added output as Chinese household consumption.^{liii}

Figure 16: Changes in value-added exports to China resulting from a 1% increase in Chinese consumption growth and 1% decrease in Chinese investment growth.

Source: IMF Regional Economic Outlook for Asia and Pacific, April 2016.



- ⁱ ANZ and Australian Institute for Business & Economics (2016), 'Servicing Australia's Future', June.
- ⁱⁱ That is, Australia's export profile has been dominated by resources in general and iron ore in particular.
- ⁱⁱⁱ Austrade (2015), 'How Dependent are Australian Exports on China?', Trade and Investment Note, February.
- ^{iv} Downes, P., Hanslow, K. and Tulip, P. (2014), 'The Effect of the Mining Boom on the Australian Economy', Reserve Bank of Australia, Research Discussion Paper, RDP2014-08.
- ^v Au-Yeung, W., Keys, A. and Fischer, P. (2012), 'Australia-China: Not Just 40 Years', Economic Roundup, The Treasury, Issue 4.
- ^{vi} Minister for Trade and Investment (2015), 'Historic China-Australia FTA Enters into Force', Media Release, 20 December.
- ^{vii} Austrade (2015), 'Australian's Exports of Services: A High-level Primer', Trade and Investment Note, November.
- ^{viii} Department of Foreign Affairs and Trade (2015), 'Australia's Trade in Goods and Services 2014-15', 25 November.
- ^{ix} The World Bank (2016), 'Overview', China, last updated 6 April. <http://www.worldbank.org/en/country/china/overview#1>
- ^x Goldman Sachs (2015), 'The Rise of China's New Consumer Class'. <http://www.goldmansachs.com/our-thinking/macro-economic-insights/growth-of-china/chinese-consumer>
- ^{xi} Barton, D., Chen, Y. and Jin, A. (2013), 'Mapping China's Middle Class', McKinsey Quarterly, June.
- ^{xii} Credit Suisse (2015), 'Global Wealth Report 2015', October.
- ^{xiii} Dorrucci, E., Pula, G. and Santabarbara, D. (2013), 'China's Economic Growth and Rebalancing', Occasional Paper Series, European Central Bank, No. 142, February.
- ^{xiv} IMF Survey Magazine (2016), 'Asia: Growth Remains Strong, Expected to Ease Only Modestly', 3 May.
- ^{xv} Connolly, E., Jääskelä, J. and van der Merwe, M. (2013), 'The Performance of Resource-exporting Economies', Bulletin, Reserve Bank of Australia, September.
- ^{xvi} Letts, S. (2016), 'Mining Industry to Lose 50,000 More Jobs as Boom Comes to an End', ABC News, 11 June.
- ^{xvii} Bloomberg News (2016), 'China Sets 6.5% to 7% Growth Target, First Range Since 1990s', 4 February.
- ^{xviii} A number of organisations provide authoritative GDP country forecasts globally. These include the IMF, the OECD and the World Bank. Their current forecasts in relation to China are similar over a 3-5 year horizon. Of the three, only the OECD provides 10-year growth forecasts and so we have closely followed its projections for the 'baseline' scenario in this exercise.
- ^{xvix} All four scenarios assume moderate growth in multi-factor productivity, demographic changes calibrated to the Intergenerational Report and ABS forecasts, and other forecasts of key macroeconomic variables from the Treasury. Forecasts for prices of commodities are from the Department of Industry, Innovation and Science.
- ^{xx} The exact price and quantity results depend on supply and demand elasticities. Exports to the rest of the world are 'crowded out' to some extent.
- ^{xxi} Hatzvi, E., Meredith, J. and Nixon, W. (2015), 'Chinese Capital Flows and Capital Account Liberalisation', Bulletin, Reserve Bank of Australia, December.
- ^{xxii} KPMG and the University of Sydney (2016), 'Demystifying Chinese Investment in Australia', April, p. 30.
- ^{xxiii} Although Chinese investors may favour particular industries, we assume the stimulus to investment is spread evenly across all industries. This is because the injection of foreign funds from China in favoured industries may free up other sources of funds to be invested elsewhere in the economy.
- ^{xxiv} Detailed industry results are available in Appendix 2.
- ^{xxv} The Lancet (2015), 'How to Attain the Ambitious Goals for Health Reform in China', Editorial, Vol. 386, No. 10002, p. 1419, 10 October.
- ^{xxvi} Brown, K. and van Nieuwenhuizen, S. (2015), 'Australia-China Healthcare Opportunities', The University of Sydney China Studies Centre.
- ^{xxvii} Austrade (2016), 'Aged Care to China: Trends and Opportunities'. <http://www.austrade.gov.au/Australian/Export/Export-markets/Countries/China/Industries/aged-care>
- ^{xxviii} O'Connell, K. and Madar, S. (2015), 'The China FTA is Just the Tonic for Australia's Healthcare Operators', Business Spectator, 17 July.
- ^{xxix} Figures may differ from Section 10 due to rounding, differences in the use of financial years or calendar years, and slight disparities in the way industries are defined.
- ^{xxx} Department of Education and Training (2016), 'China - Outbound and Inbound International Students', Research Snapshot, February.
- ^{xxxi} Department of Education and Training (2016), 'Export Income to Australia from International Education Activity in 2015', Research Snapshot, June.
- ^{xxxii} Figures may differ from Section 10 due to rounding, differences in the use of financial years or calendar years, and slight disparities in the way industries are defined.
- ^{xxxiii} HSBC (2014), 'Australia the Most Expensive Country for Education', 10 September.
- ^{xxxiv} Productivity Commission (2015), 'International Education Services', Research Paper, April, p. 6.
- ^{xxxv} Tourism Research Australia (2015), 'Tourism Forecasts'.
- ^{xxxvi} Australian Tourism Export Council (2015), 'Submission: Barriers to Growth in Australian Services Exports', May.
- ^{xxxvii} L.E.K. (2016), 'Enter the Dragon: How the China Tourism Boom is Transforming Australia'.
- ^{xxxviii} Austrade (2016), 'Financial Services to China: Trends and Opportunities'. <http://www.austrade.gov.au/Australian/Export/Export-markets/Countries/China/Industries/Financial-services>
- ^{xxxix} Figures may differ from Section 10 due to rounding, differences in the use of financial years or calendar years, and slight disparities in the way industries are defined.
- ^{xl} Auster, A. and Foo, M. (2015), 'Financial Integration in the Asia-Pacific: Fact and Fiction', Australian Centre for Financial Studies.
- ^{xli} Wilkins, K. and Zurawski, A. (2014), 'Infrastructure Investment in China', Bulletin, Reserve Bank of Australia, June.
- ^{xlii} KPMG (2016), 'Demystifying Chinese Investment in Australia', April.
- ^{xliiii} The CGE modelling uses Input-Output Industry Group (IOIG) classifications. For information on how IOIG is mapped to the Australian and New Zealand Standard Industrial Classification (ANZSIC), refer to ABS Catalogue 5209.0.55.001 - Australian National Accounts: Input-Output Tables, 2012-13, Table 40.
- ^{xliiv} Eloit, K., Huang, A. and Lehnich, M. (2013), 'A New Era for Manufacturing in China', McKinsey Quarterly, June.
- ^{xli v} Because the CGE model assumes a labour force calibrated to the Intergenerational Report and ABS forecasts, additional employment in one (sub-)industry must always draw labour away from some other (sub-)industry. As such, the model produces winners and losers. It does not allow for faster growth in the labour force in response to higher demand - as might be possible through, for instance, skilled migration.
- ^{xli vi} ANZ and Australian Institute for Business & Economics (2016), 'Servicing Australia's Future', June.
- ^{xli vii} That is, Australia's export profile has been dominated by resources in general and iron ore in particular.
- ^{xli viii} Austrade (2015), 'How Dependent are Australian Exports on China?', Trade and Investment Note, February.
- ^{xli ix} Input-output tables describe the sale and purchase relationships between producers and consumers within an economy.
- ⁱ Inter-American Development Bank (2015), 'Understanding a Computable General Equilibrium Model'.
- ⁱⁱ International Monetary Fund (2016), 'Asia and Pacific: Building on Asia's Strengths during Turbulent Times', Regional Economic Outlook, April.
- ⁱⁱⁱ Ma, G., Roberts, I. and Kelly, G. (2016), 'A Rebalancing Chinese Economy: Challenges and International Implications', draft paper submitted to 'Structural Change in China: Implications for Australia and the World' conference, Reserve Bank of Australia, 17-18 March.
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