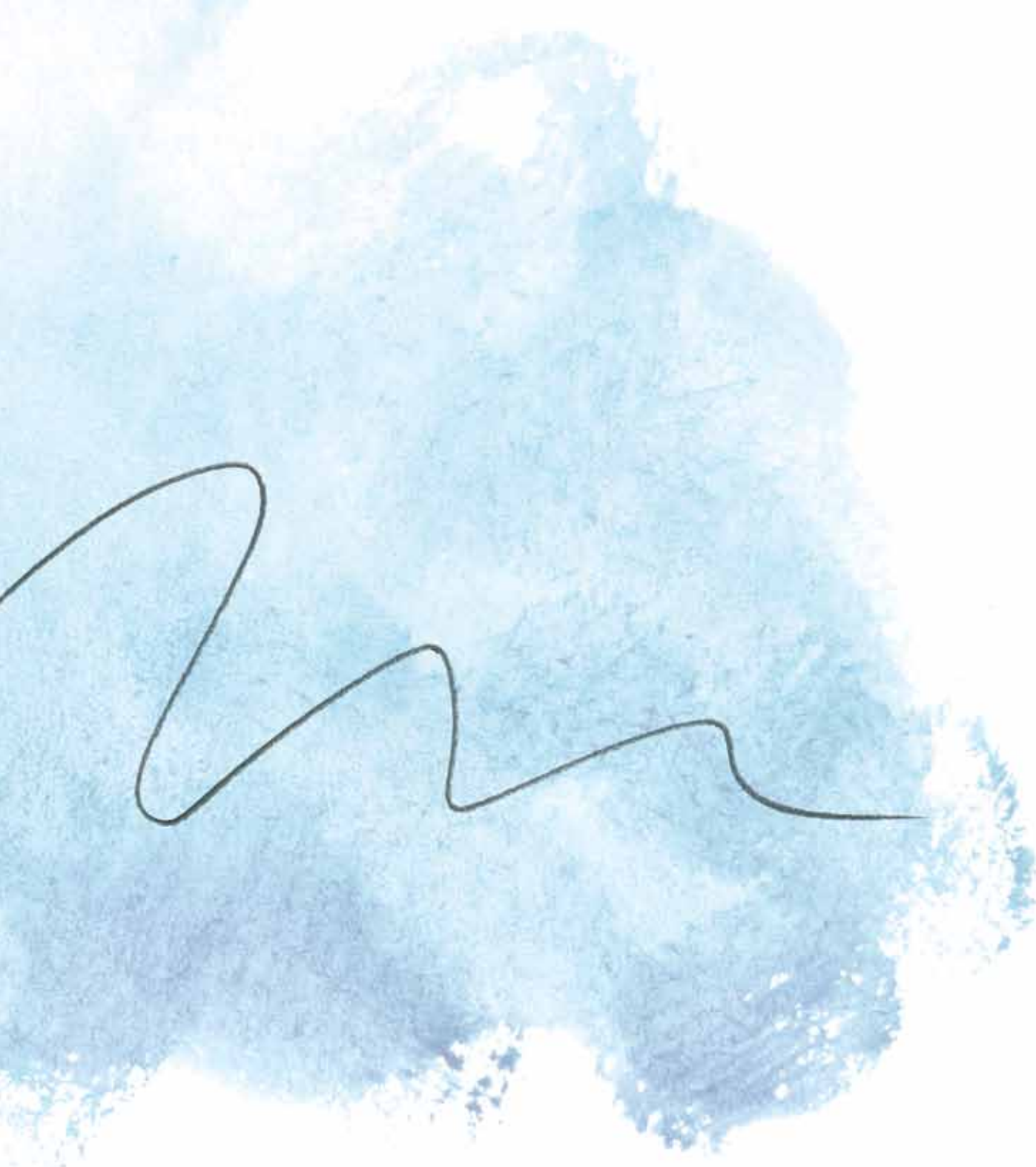


Positioning
for prosperity?
Catching the
next wave







Everyone can
position for
prosperity

Where are the next waves?



The Lucky Country has had a good run.

Since 2005, Australia's growth has been fuelled by a magic mix of natural advantages and international opportunities. Simply speaking, we've got lots of what fast-growing Asia wants.

We've seen this pattern before: waves of Australian prosperity where global opportunity has met Australian advantage. Our gold, wool, wheat, meat, iron, coal and nickel have all boomed – some more than once.

Looking forward, business and government leaders need to ask searching questions about where our future prosperity will come from.

Positioning for prosperity? Catching the next wave explores how we can position Australia – and its individual sectors and businesses – for future prosperity. How do we extend the run of mining, our current wave? And what future waves can we catch?

The release of our initial research in 2013 identified growth opportunities for Australia in agribusiness, gas, tourism, international education and wealth management, and we calculated that the size of these 'Fantastic Five' sectors would collectively match that of mining today.

In this more expansive analysis of the intersections between global opportunity and Australian advantage, we identify 19 further potential Growth Pockets with major implications for Australia.

Collectively, we call these sectors and Growth Pockets, the Deloitte Growth 25 ('DG25'): the 25 sectoral hotspots with the greatest potential to contribute to Australia's prosperity (see Figure 1).

Figure 1: The DG25

Growth opportunities for Australia	
Current wave	1. Mining
Next waves	<i>Fantastic Five</i> 2. Agribusiness 3. Gas 4. Tourism 5. International education 6. Wealth management
Future waves	<i>Slipstream Stars</i> 7. ICT – gateway to the future 8. Financing the Fantastic Five 9. Clean coal 10. Gas transport 11. Food processing <i>Global Slivers</i> 12. Disaster management and preparedness 13. Next-gen solar 14. Next-gen nuclear 15. Medical research 16. Ocean resources <i>Local Heroes</i> 17. Community and personal care 18. Retirement living and leisure 19. Reskilling an ageing workforce 20. Financing the future 21. Residential aged care 22. Preventative health and wellness 23. Digital delivery of health 24. Private schooling 25. Parcel delivery

We have been pleased to see widespread support for this report's findings across government, business and the media, and an overwhelming consensus on the need for a more deliberate growth strategy for Australia.

Following this positive response, in February 2014 Deloitte convened a roundtable of some of Australia's most senior CEOs, chairs, directors and public servants, along with Coalition ministers and Labor shadow ministers and former political leaders, to discuss Australia's growth strategy.

While we were pleased at these leaders' validation of the DG25 as the basis for a national growth strategy, we were even more delighted that the group strongly enhanced our thinking by identifying a number of principles that transcend the tactical specifics of growth, and address the mindset and behaviours needed to create it.

The resolutions that arose from this rich discussion are featured in the box, and represent an excellent set of guiding principles for all of us to follow.

Together, they represent a big 'if' facing our country: If Australia is to lift its growth trajectory over the next decade, we need a sense of urgency, long-term thinking, clarity, skills, inclusiveness, policy coherence, collaboration and – most important – confidence.

This truly is the debate for our time, and one that Deloitte and the leaders we brought together believe must become a national conversation that engages all of Australia.

We will see growth within, and beyond, the DG25 if business and government take an aligned view of where Australian advantage can best be used to exploit the opportunities of the future. While many challenges lie ahead, we should all be encouraged by the possibilities opening up for our fortunate nation. How effectively we catch and ride the future waves explored in this paper will determine our prosperity for generations to come.

Giam Swiegers
CEO, Deloitte Australia

Growth resolutions

We will as a nation achieve higher economic growth **If Australia:**

1. Shuns complacency and adopts a sense of urgency about the need for growth.

2. Embeds long-term thinking in the way we make business decisions.

3. Reaches and maintains clarity on the right triggers for economic impact.

4. Pre-emptively skills up our people for the emerging jobs of the future.

5. Embraces diverse participation in the workforce, especially by women.

6. Achieves policy coherence across all areas of government.

7. Adopts practical mechanisms to make collaboration happen consistently.

8. Is more confident about our growth potential and future prospects.

Introduction to the full edition: What if, Australia?

Welcome to the full edition of *Positioning for Prosperity? Catching the next wave*. This paper, the third in our Building the Lucky Country series, expands on our preview published in late 2013 by discussing growth prospects across Australia's economy.

As well as covering big potential export earners such as gas and tourism, we focus on the full range of potential growth engines for Australia – both domestically and globally.

Our approach assesses global and domestic trends that can be harnessed to fuel economic growth, such as demographic and technological change, as well as the rise of emerging Asia. To our initial analysis of the 'Fantastic Five' sectors that lie squarely at the intersection of global opportunity and Australian advantage, we now add a further 19 Growth Pockets that businesses with the right mindset can exploit, and government with the right policies can foster.

These pockets of growth will be driven partly through changes in the economy and society as a whole – new health needs arising from the ageing of our population, for example – and partly in more nascent areas such as algae-based biofuels, or novel ways to generate electricity.

We call these 25 growth hotspots of future Australian prosperity the DG25, encompassing our:

- **Current growth wave:** Mining, which presently represents about 10% of our economy and has plenty of runway left if we address cost challenges
- **Next growth waves:** the Fantastic Five – agribusiness, gas, tourism, international education and wealth management – which collectively have the potential to overtake mining and keep Australia at the top of the world's national prosperity charts
- **Future growth waves:** 19 Growth Pockets that could arise within more domestically focused sectors, as well as at the overlaps between them and our more globally oriented current and next growth waves.

Naturally, this list will change over time as new opportunities emerge, lines blur between sectors, and industry hybrids and networks continue to transform the landscape. The aim is to take a mid- to long-term view based on underlying trends and informed by the present, to ensure we are as well positioned as possible for the future.

We hope this report's insights will help you make the most of those opportunities by instilling confidence and positioning your organisation – and Australia – to ride those waves.

Mehrdad Baghai
David Redhill
Chris Richardson
Gerhard Vorster
Series authors

Part I





Beyond the boom

Australia's sectoral opportunities are changing

It's been beaut

Australia's success in having more than two decades without a recession has been so remarkable that it's become wallpaper. We expect greatness.

Yet our success was no surprise. Led by China, half the world began an 'industrial revolution' that saw its hunger for Australia's commodity exports boom. That boosted our prosperity for the simple reason that we had what the world wanted.

But the boom is slowing

Although the mining boom isn't ending, it is changing in ways that will reshape Australia's industrial landscape. The prices the world is paying for Australian commodities remain multiples of where they were before the latest upward surge. Yet they are already below their peaks and the consensus among economists is that they'll go even lower still.

That's because the end result of a boom in global demand for industrial commodities isn't a boom in their price, but a boom in their supply. Responding to sustained demand, the world's miners dig deeper, gradually catching up to the rising needs of the globe's emerging economies.

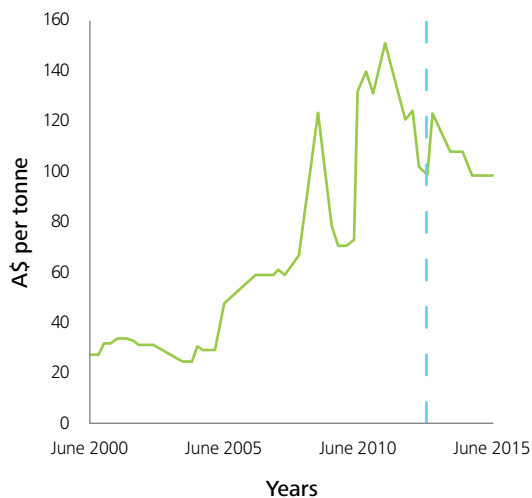
At the same time, the stunning increase in mining-related construction, which has driven much of Australia's recent growth, is already peaking. It won't go away either – mining-related construction will remain much larger than it used to be – but it will no longer be the main driver of Australian growth.

Figure 2: Australia's relative living standards have rebounded



Source: Groningen Growth and Development Centre, University of Groningen

Figure 3: Recent and forecast iron ore prices



Source: 2013–14 Federal Government Budget Papers

We've surfed this break before

The past decade isn't the only time things have worked out well for Australia. Nor is it the only time we've failed to cash in.

When a fast-growing global economy – one on the gold standard – needed more of the precious yellow metal from the middle of the 19th century onwards, Australia filled the bill. That trade supercharged our economy and population growth for decades.

When refrigerated transport opened up new world markets for lamb and beef in the 1880s, it revolutionised our farming prospects at a time when agribusiness was already our largest industry. Then the growth baton passed to service sectors which prospered from demands linked to rising incomes here and around the world.

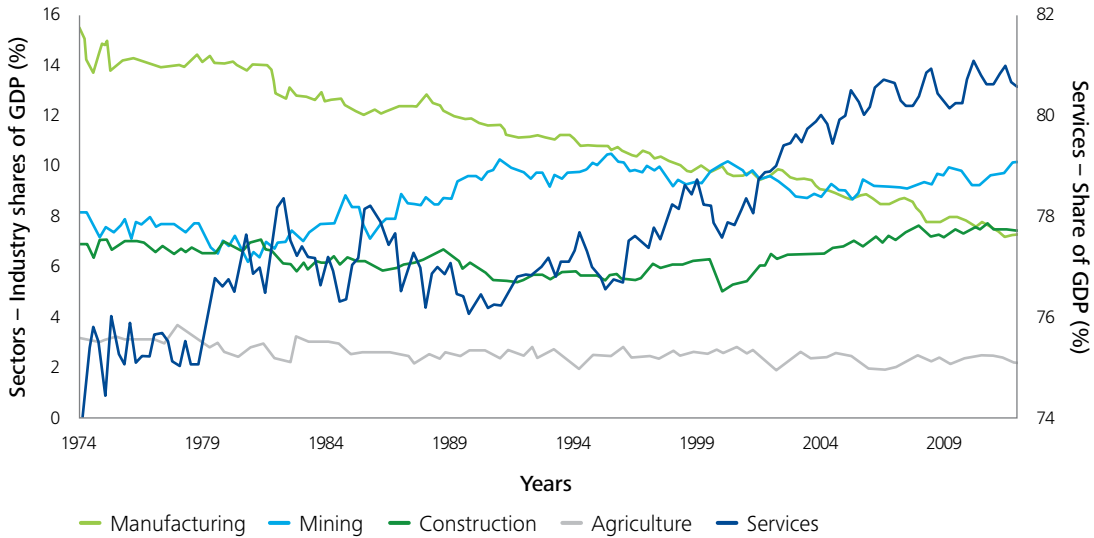
These developments all changed the Australian industrial landscape.

Yet we could have done better – we've missed a bunch of magnificent opportunities.

A little over a century ago, Australia vied with Argentina for the highest living standards in the world. By the early 1980s, we'd fallen to 16th in the global rankings of income per head.

There were many factors behind our fall from grace, but our biggest self-inflicted wound was turning our back on both global opportunity and Australian advantage. We cowered behind tariff walls and hid from global markets, dulling Australian advantage and supporting our weaker sectors at a cost to our stronger ones.

Figure 4: Our changing industrial landscape



Source: Australian Bureau of Statistics

Economists have long since found that every subsidy to one sector comes at the expense of hidden costs to others. In Australia's case, that meant our tariff protection for the likes of manufacturing came at a cost to the global competitiveness of our farmers and miners.

This is the idea we explore in this report: how Australia can ensure that it is well positioned for prosperity in a competitive global economy, and how individual businesses, industry associations and governments can do their bit to ensure we (and they) realise our potential.

That mistake cost us dearly. After a final flurry (when wool prices jumped during the Korean War of the early 1950s), exports slumped to less than one-eighth of national income by the late 1960s. They only returned to what we'd averaged in the first half of the 20th century in the past few years, amid a stunning resources boom.

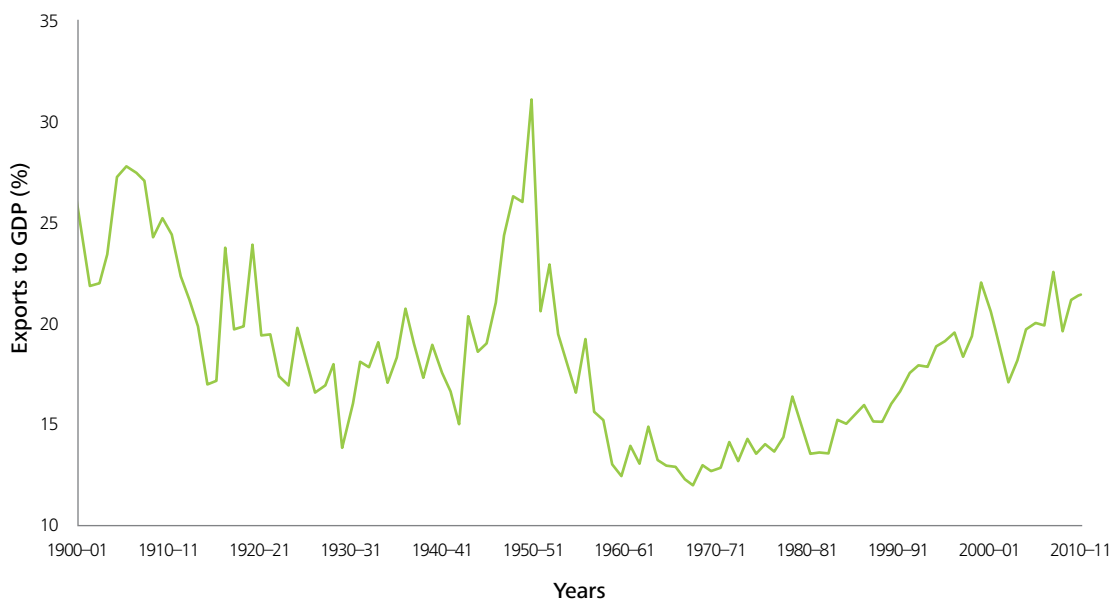
So, what's the pattern here? It is that Australia gets its biggest breaks – its largest wealth-creating waves – when we find ourselves at the intersection of global opportunity and national advantage.

The mythical 'Fountain of Youth mine'

To understand the role comparative advantage plays in sustaining Australia's enviable standard of living, it's worth considering the absurd proposition of what a 'Fountain of Youth mine' could mean for our economy. If such a mine were to produce just a few drops a day, their scarcity would guarantee a price that could support much of our economy.

That is an extreme example of how Australians maintain our enviable standard of living despite exports making up just one-fifth of our economy. By comparison, countries such as Germany must focus about half their production on exports.

Figure 5: Exports as a share of Australia's economy



Source: Australian Treasury, Australian Bureau of Statistics

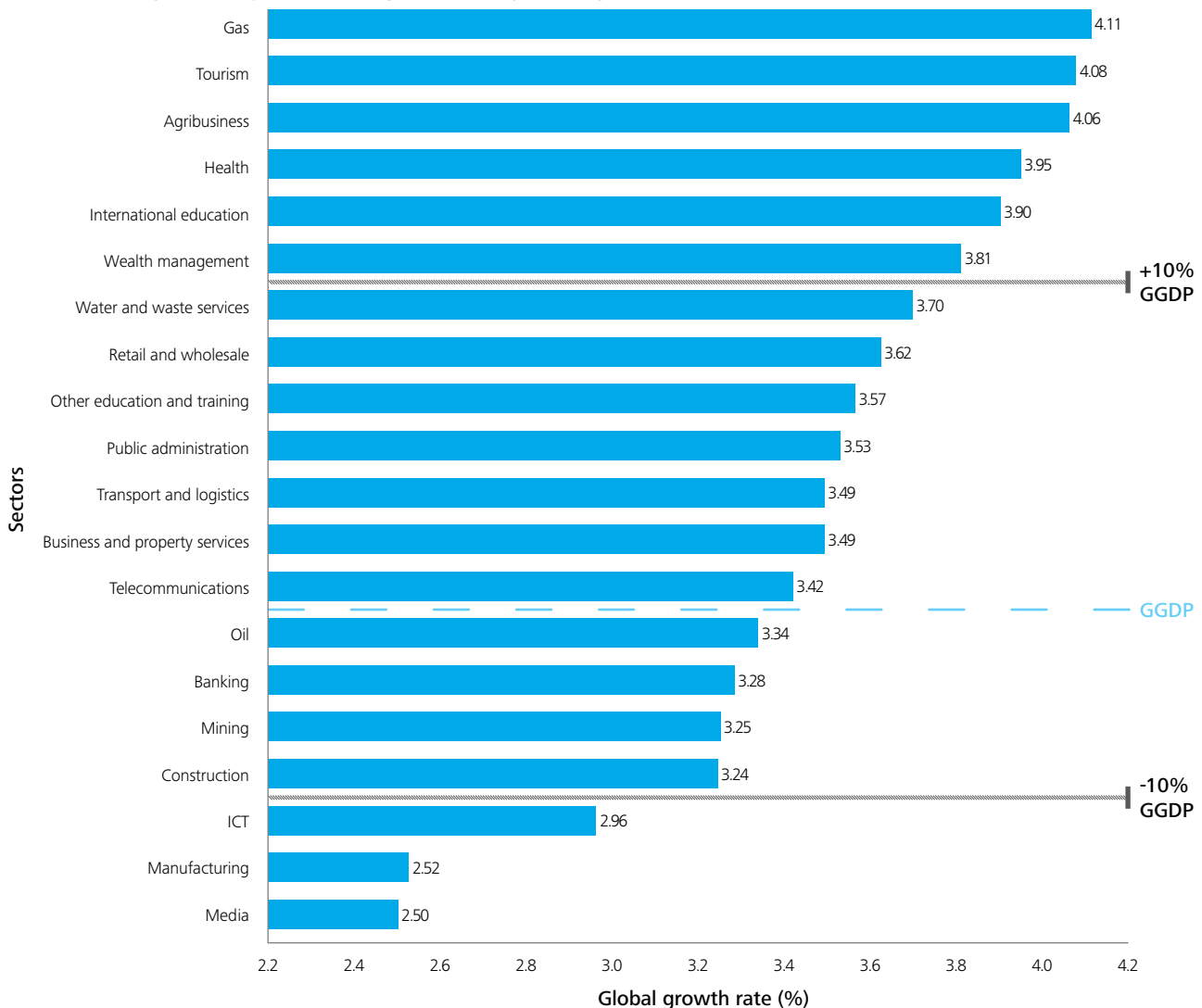
So where is the next wave?

Global opportunity

The reality is that we need new growth drivers. We need another wave – or several – to build a platform for our next generation, much of which is already suffering as a result of our exceptionally high youth unemployment. The first place to look is those sectors that can be expected to grow significantly faster than global gross domestic product (GGDP) as a whole over the next 10 to 20 years, or by more than about 3.4% per year.

To do that, we mapped the expected global growth of a range of industry sectors from now to 2033. Among the fastest-growing are gas, tourism and agribusiness – each of which is expected to grow more than 10% faster than GGDP.

Figure 6: Projected annual global industry output growth, 2013–33



Source: Deloitte Access Economics

Then we grouped sectors into three categories: those that would grow at least 10% faster than GGDP (more than 3.7%), those that would grow at close to GGDP and those that are expected to grow at least 10% slower than GGDP (less than 3.1%).

Figure 7: A three-part view of global growth

Global opportunity	
>GGDP	Gas Tourism Agribusiness Health International education Wealth management
~GGDP	Water and waste services Retail and wholesale Other education and training Public administration Transport and logistics Business and property services Telecommunications Oil Banking Mining Construction
<GGDP	ICT Manufacturing Media

Source: Deloitte Access Economics

At the top are a diverse group of sectors that can be expected to power ahead, with many driven by demand generated by the industrial revolution continuing to play out in the world's emerging economies.

Below them are industries such as banking, mining, oil, construction, business and property services, and transport and logistics. While all remain big parts of the Australian economy, they are not high-growth stories.

At the base are technology, media and manufacturing. These will still grow, but won't offer natural tailwinds.

Australian advantage

As history has shown, growth alone isn't enough to deliver success to Australia. We also need an edge – a source of comparative advantage that's hard for other nations to match.

The good news is that we have at least five big-picture advantages running in our favour:

- World-class resources in land, minerals and energy
- Proximity to the world's fastest-growing markets in Asia
- Use of English, the world's business language
- A temperate climate
- Well-understood tax and regulatory regimes.

The retreat of the Australian dollar (A\$) from its record highs is also a welcome relief. Many of our potential high-growth sectors have been on the back foot in recent years, fighting to cope with the relative strength of Australia's exchange and interest rates that were part and parcel of the mining boom's first phase.

We see the A\$ settling at U.S.80 cents in the longer term (see box, page 11). This is an important development. It signals the starter's gun on new opportunities that will be good news for 'dollar-dependent' sectors including manufacturing, farming, tourism and international education (as it relates to teaching foreign students). It will also be a tailwind for 'interest rate-sensitive' sectors, such as retail and housing construction.

These sectors do not only hold out the promise of new waves of growth – they offer us a way to diversify beyond mining's boom and bust. All that's missing is for Australian businesses and families to realise that our opportunities are just as great as they were at the start of the mining boom, but that they will come from different directions.

Forecast for the Australian dollar

A key negative of the past decade for many of the sectors considered here was the stunning strength of the A\$. This put large costs on exporters, and on those competing with imports.

Yet the A\$’s parity with the US\$ has already passed, and further falls can be expected. In addition, interest rates in much of the developed world remain at ‘emergency lows’ amid the aftershocks of the global financial crisis (GFC).

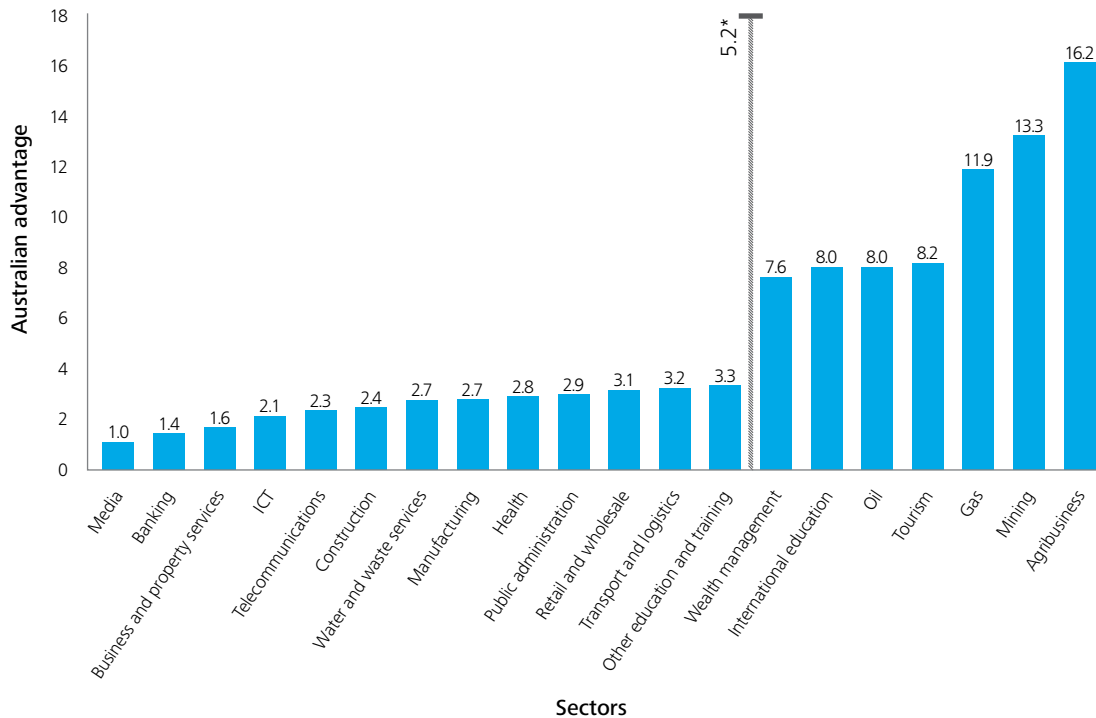
But crises don’t last forever, and interest rates will eventually rise in the world’s major markets.

For this reason, the two big drivers of the A\$ – commodity prices and interest rate differentials – are both likely to push it down in coming years. Our forecasts have the dollar eventually settling at around U.S.80 cents. That’s higher than the U.S.75 cents averaged in three decades of a floating currency, but well down from the parity peaks of recent years.

To demonstrate this concept better, Deloitte has developed an Australian advantage score linking relative productivity (what Australia is good at) with relative advantage (where it is difficult for others to match or imitate our advantages).

This is shown in Figure 8 and you’ll find more detail about it in our Methodology section. The areas where Australia enjoys a relatively high level of advantage include agribusiness, mining and gas.

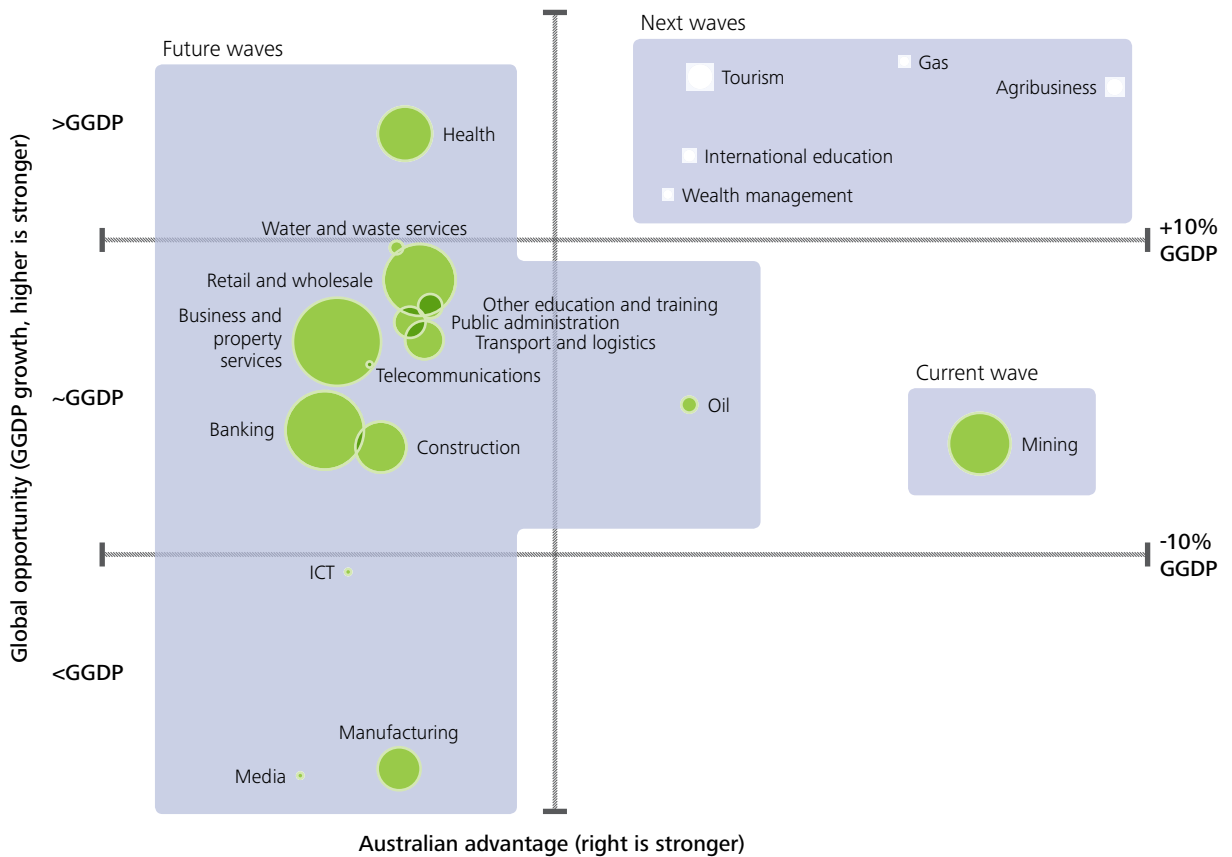
Figure 8: Areas of comparative advantage for Australia (relative advantage score)



Source: Deloitte Access Economics

* Average Australian advantage

Figure 9: Australia's current, next and future waves of growth, 2013–33



Source: Deloitte Access Economics

Current, next and future waves

The multi-billion-dollar question is: where does Australian advantage intersect with global growth? Where are the waves that will drive our prosperity, today and tomorrow?

The answer is revealed in Figure 9, which brings all of these concepts together – global growth opportunities over the next 20 years (the vertical axis), Australia's expected advantages (the horizontal axis) and the size and placement of Australia's specific industry sectors.

This view also shows how Australia's future growth prospects can be viewed as a series of waves.

The current wave

For the past decade, our big wave has been mining. The resources boom has been driven by the combination of our comparative advantage and runaway global growth. While that growth is moderating, the sheer size of the mining sector and its continuing potential will ensure it remains central to our economy for many years to come. Our challenge is to extend the boom for as long as possible and make sure we do not burden it with disadvantage through unwise regulation and taxation.

Our next waves

Looking at the global growth trends and Australia's areas of advantage, it becomes clear that some of our most important next waves of prosperity are likely to come from the five sectors that appear at the top of both our 'Australian advantage' and 'global growth' lists.

These Fantastic Five sectors are gas, agribusiness, tourism, international education and wealth management. Collectively, they have the potential to be as big as mining.

The huge and common driver for this group will be Asia. Asian growth will benefit:

- Agribusiness: as people buy Australia's fresh produce, including proteins
- Gas: as countries seek to improve air quality and reduce greenhouse emissions
- Tourism: as people seek space, nature, holidays and luxury experiences
- International education: as students seek to study in an English-speaking country
- Wealth management: as organisations and individuals tap into Australia's expertise.

Exceptional growth in these five sectors could add about \$250 billion to the economy between 2013 and 2033. That would equate to an additional \$25 billion in GDP in 2033 (in today's dollars) – or a boost of about 1% in an economy turning over \$2.6 trillion (also in today's dollars).¹

Future waves

But wait – that's not all. Pockets of growth can also be found in the big and primarily domestic sectors that make up the bulk of our economy.

Some of these, such as health, will grow strongly. Others are offshoots from areas in which we have deep strength, such as banking. And some sectors will benefit from demographic trends, including private schooling at one end of the spectrum and aged care at the other.

These 19 growth areas, which have the potential to contribute more than an additional \$150 billion to Australian incomes over the next two decades, are featured in Figure 10 alongside mining and the Fantastic Five. Together they form a group of exciting growth opportunities for Australia that we call the DG25.

Outpacing the world

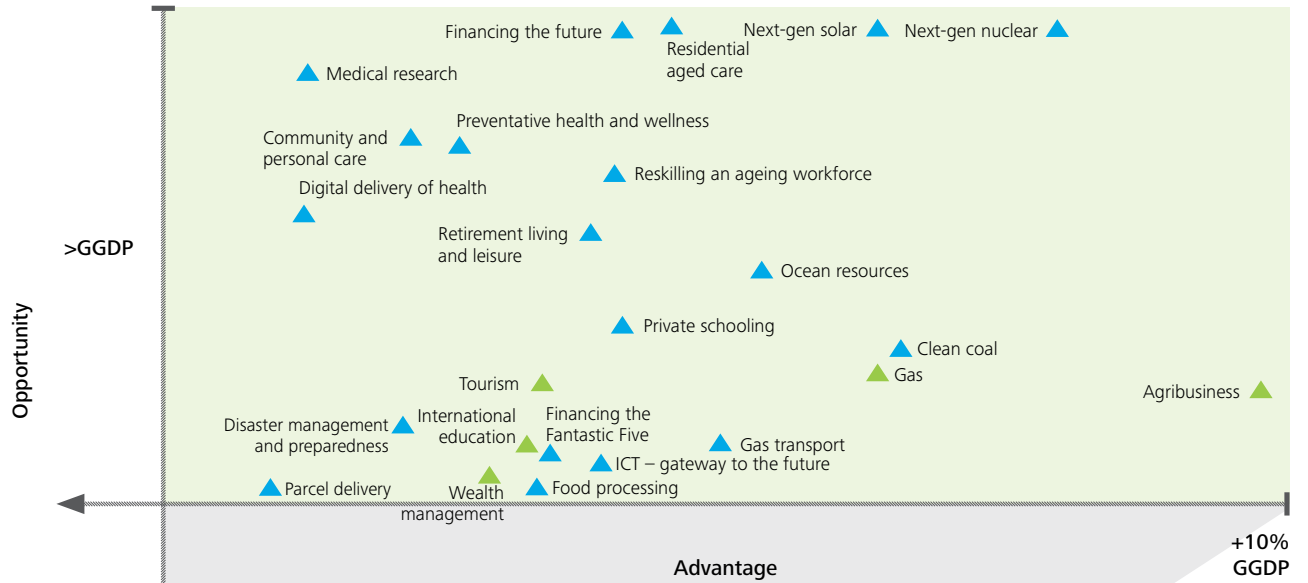
Underpinning our forecasts here is Deloitte's view that Australia will be the fastest-growing developed Western nation in the world in coming years. That's not just our expectation: it is also the view in the longer-term economic surveys conducted by Consensus Economics.

That said, it's worth remembering that 'fastest-growing developed Western nation' is not the same as saying Australian growth rates will accelerate in coming decades. Instead, Deloitte (along with the Federal Treasury) believes that the longer-term growth of the economy will be more modest than the rates recorded over the past two, recession-free decades.

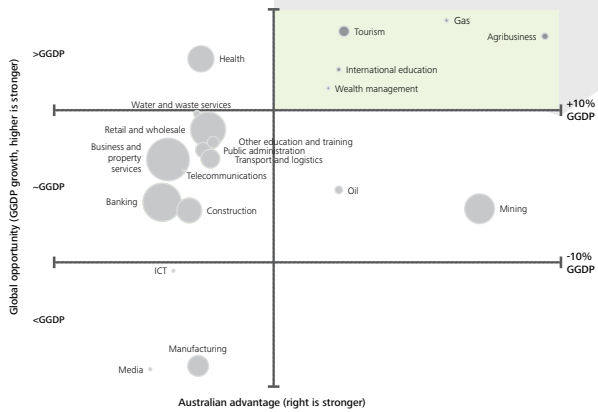
A key drag on growth will be the retirement of the baby boomer generation. This outlook means we'll see an Australia where growth is driven by particular parts of the economy – as we discuss throughout this report – while other areas actually decline.

¹ See the Appendix for discussion of this modelling and greater detail of our results.

Figure 10: DG25 results matrix



Positioning for prosperity map



▲ Growth Pockets ▲ Fantastic Five ▲ Mining

Source: Deloitte Access Economics

Making the most of our strengths

Our core message is that while global or domestic opportunity and structural advantages are necessary requirements, they are not in themselves sufficient to ensure success, even in sectors like gas that appear to have everything going for them.

The other key ingredient is our capacity to cash in. Resources are a good example: many nations are rich in resources, yet few have developed world-class resource sectors. Australia's is the result of both good assets and good management.

This is where the hard work comes in. Our task is to build on our areas of advantage to improve Australia's performance relative to our global competitors and at home. This means creating things like a better-skilled vocational workforce, especially in focus areas such as aged care and ICT; more efficient regulatory and tax regimes; and a stable and clear set of policy rules for businesses.

It will also rely on our ability as a nation to set a coherent and long-term policy vision and to implement it consistently over time. For example, ideas from the previous Federal Government's *Australia in the Asian Century* white paper, which traversed many of the growth ideas discussed in this report, may remain relevant to the new Government. And the state governments have already agreed with the Federal Government on a list of five priorities that overlap the areas of interest identified in this report.² This sort of bipartisan understanding has certainly been achieved in areas such as agreeing that foreign investment is typically positive for Australia.

Any comprehensive framework should also be developed in consultation with investment groups that take a long-term view and have the capacity to support plans over decades, such as institutional investors and super funds. This might have the added benefit of helping counter the short-term focus that many boards face from shareholders and the funds management community.

While global or domestic opportunity and structural advantages are necessary requirements, they are not in themselves sufficient to ensure success.

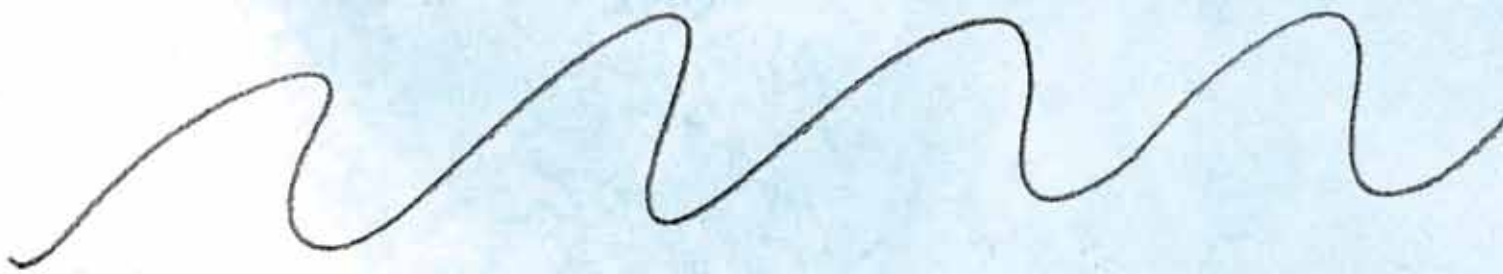
In addition, we need to get better at collaborating across government and business and maximising the participation of women, Indigenous Australians, people with disabilities, older people and other Australians to make the best use of our human capital and to ensure our society is diverse and fair.

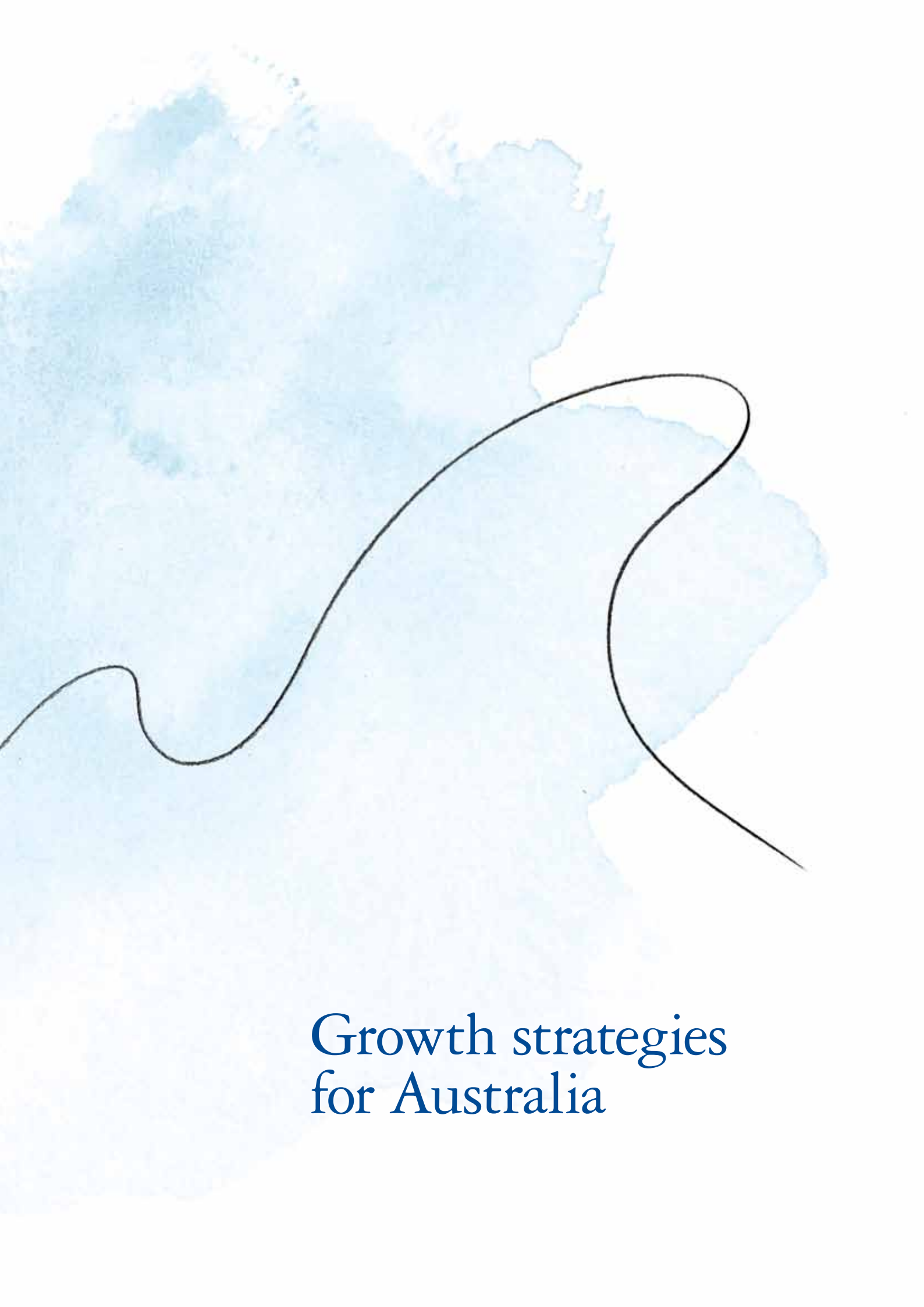
At the same time, we should use our current strength and future potential to lure the world's best talent to Australia. There is also an argument for looking at where we have been successful in the past. For instance, we would never have created a business like Cochlear without the public, private and university sectors coming together around a shared vision not just for a company but a whole new, high-value sector.

It's by crystallising and then realising the next such visions that we'll position Australia for prosperity.

² www.austrade.gov.au/Invest/Opportunities-by-Sector.

Part II





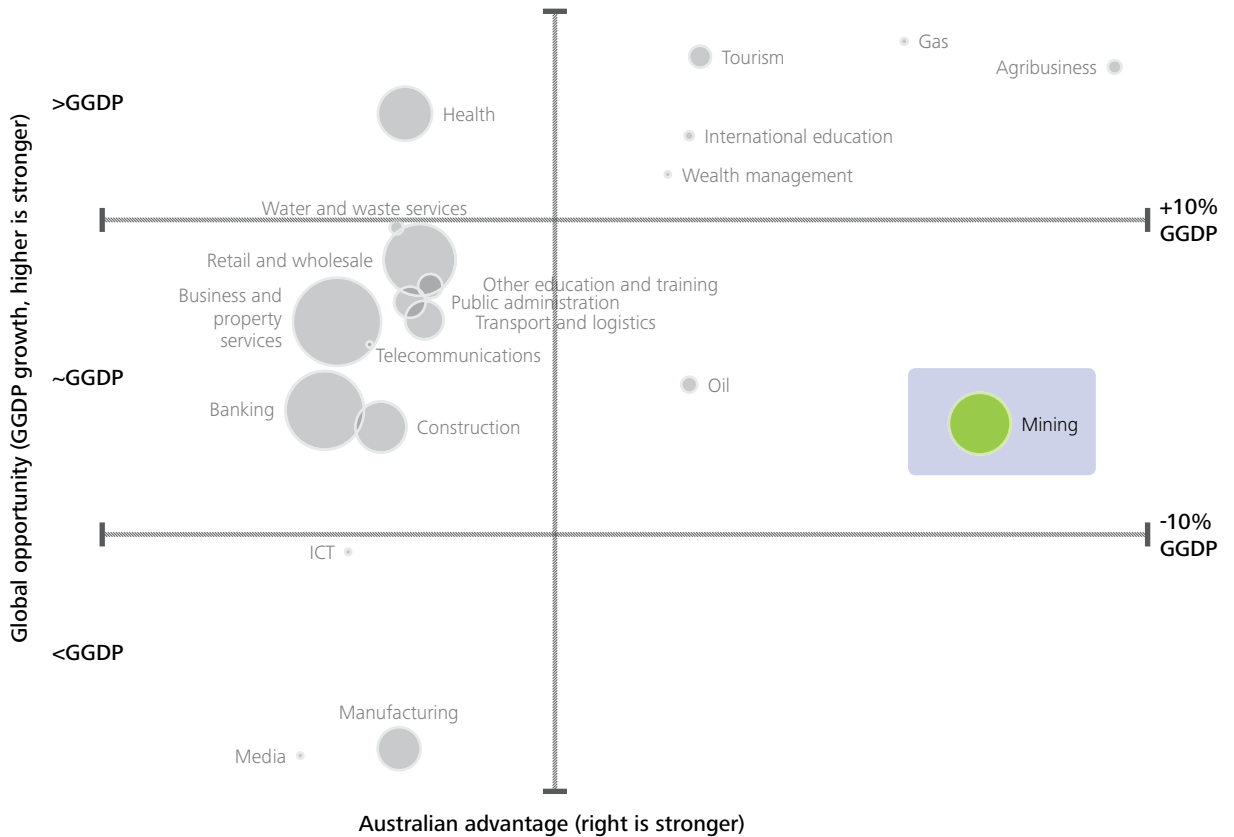
Growth strategies for Australia

Current wave

Extend the runway

Mining will continue as a major driver of our prosperity over the next two decades and beyond.

Figure 11: Australia's current growth wave



Source: Deloitte Access Economics

The mother lode

Global growth rate: 3.25%
Australian advantage: 13.3*

A decade ago, Australia's economy was slowing at the back end of a housing price boom, and we needed a new growth driver. Mining stepped up, accelerating Australian prosperity at the perfect moment. In fact, much of Australia's increased wealth today is thanks to our mining sector, as we were already a leading supplier of industrial inputs to developing Asia at the time the latter's growth surged.

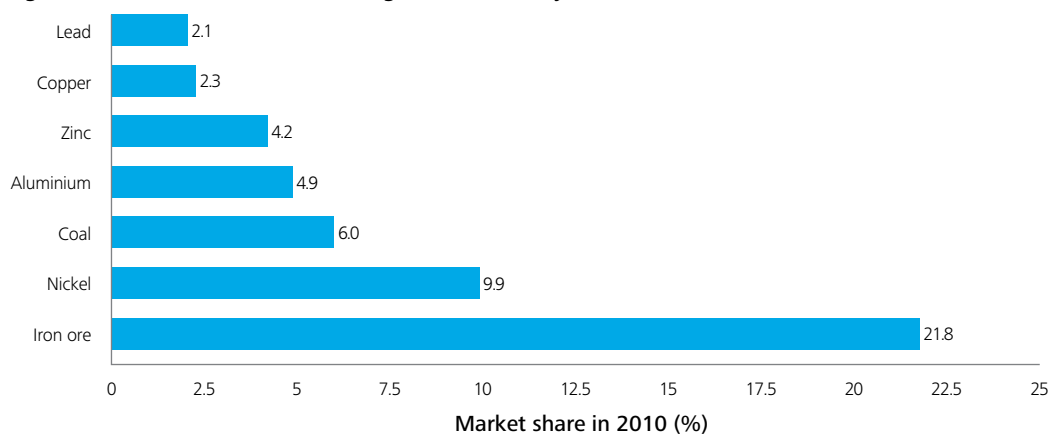
Roll forward a decade, and some things have changed. In part, we are a victim of our own success: today's mining sector is already much larger than it used to be. In addition, the outlook for mineral demand growth has ebbed recently and is unlikely to continue at the frantic pace of the past decade (especially for coal), while rising costs and falling productivity are crippling our global competitiveness.

We still hold plenty of aces

Even so, mining will continue as a major driver of our prosperity over the next two decades and beyond. As BHP Billiton CEO Andrew Mackenzie recently said: "Global demand for commodities is expected to grow by up to 75% over the next 15 years as 250 million more people move from the Chinese countryside to cities and Asia's middle class approaches 3 billion."³ We have exceptional potential to win a large share of that growth.

World-class deposits: Australia holds some of the world's biggest and highest-quality mineral deposits. We have the world's largest economic resources of gold, iron ore, lead, rutile, zircon, nickel, uranium and zinc. We also rank among the top six nations worldwide for known resources of antimony, bauxite, black coal, recoverable brown coal, cobalt, copper, diamond, ilmenite, lithium, manganese ore, niobium, silver, tantalum, tungsten and vanadium. In addition, we hold numerous rare earth minerals (see box, page 20).⁴

Figure 12: Australian market share in global commodity markets



Source: Deloitte Access Economics

* Our Australian advantage score ranges from 1.0 to 16.2, as shown in Figure 8 and discussed in Part I and the Appendix.

³ Mackenzie, Andrew, CEO BHP Billiton, Speech to the Asia Society, Melbourne, 7 August 2013.

⁴ Geoscience Australia, 'Australia's Identified Mineral Resources', www.ga.gov.au/minerals/mineral-resources/aimr.html.

Current wave Mining

Great neighbours: We're also fortunate to be relatively close to major buyers of mining outputs, especially China, India, Japan and Korea. This gives us a cost advantage over competitors from the Americas and elsewhere, particularly when transport prices are high.

Profitability: Even with the prices of some commodities falling, Australia is still making a very good living in many mining segments. The key is where we sit on the cost curve and the fact that, even at lower prices, many Australian mines do and will continue to make great profits.

Investment support: Allowing foreigners to invest in our mines gives us a ready supply of capital to commercialise our natural resources. Provided we can overcome our cost challenges, local and foreign investors should continue to show a healthy appetite for supporting Australian exploration and development projects.

Quality infrastructure: While our infrastructure does fray at the edges at times, Australia has substantial assets for producing and exporting minerals. After all, we have just spent – in today's dollars – the same amount on mining-related infrastructure as the U.S. spent to put a man on the moon. Even better, the mines, ports and railway lines we have built with that money will provide us with a return on our investment for decades to come.

Skilled labour: Our miners are highly skilled, compared to many of those working elsewhere across the world. However, we need more of these skilled workers in the sector.

Advanced technology: Our high labour costs have forced us to be smart at using technology rather than muscle to increase yields from our mining operations. Today, Australia is a global leader in next-generation production techniques, such as remote operations centres, driverless trucks and devices to make mining safer, such as anti-drowsy caps for operators.⁵

Taking on China in rare earths?

Rare earths (such as lanthanum, neodymium, gadolinium, terbium and ytterbium) offer unique physical, chemical and light-emitting properties that make them attractive to use in 'green' products such as the motors and batteries in hybrid cars. They're also useful as petroleum catalysts, in glass manufacturing and polishing, and for making some electronic components. Today, the trade in rare earths is dominated by China, which controls almost all global output.

Australia hasn't been an active producer since 1995 when we stopped mining the mineral monazite for its rare earths and thorium. However, we have an estimated 1.65 million tonnes of economic deposits of relevant rare earth oxides (about 2% of the world's total). Furthermore, a number of companies are actively exploring for – and starting to mine – these minerals.

Given its alignment with global demand for sustainable products, as well as the potential scarcity deriving from China's hold over the market and Australia's deposits, this is an area to watch for a strong future exports story.⁶

What could slow us down?

Plenty, given mining is a highly competitive global sector.

Growing costs: The cost of mining in Australia has been escalating due to a range of factors: the scarcity of skilled labour; the high A\$; the cost of inputs such as machinery and wages; and more regulations and taxes. While the impact of the high dollar has already begun to abate, the remote and often harsh locations of many of our mines will ensure that miners continue to demand a premium for their work. It will also remain challenging to convince other workers to travel to mining locations.

⁵ Cochrane, Nathan, 'Thinking caps save drowsy drivers', *Australia Unlimited*, 17 October 2012.

⁶ Geoscience Australia, www.ga.gov.au/minerals/mineral-resources/rare-earth-elements.html.

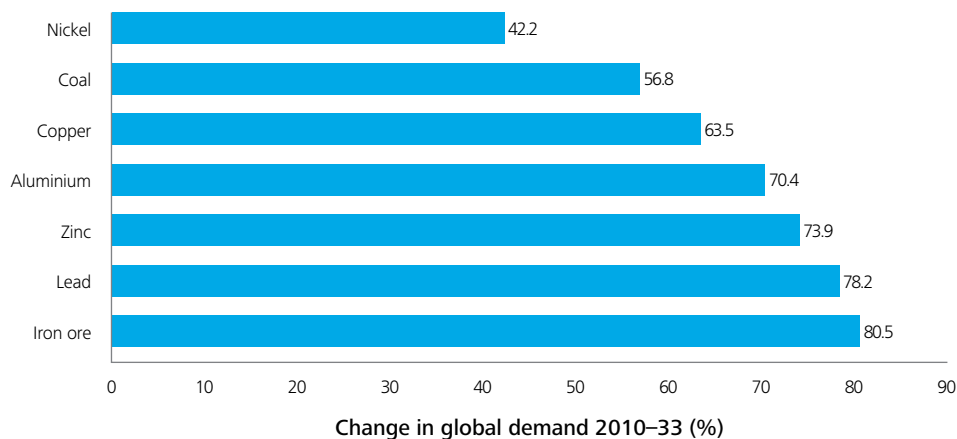
Taxes and red and green tape: Australia’s biggest ‘own goal’ in recent years has been making our regulatory environment more complex and onerous, including introducing new mining taxes and raising existing ones. We have also vacillated on carbon pricing and taxation. An unfortunate side effect is that we’ve given ourselves a reputation for government-generated risk. And while protecting our environment is vital, our governments have also been introducing regulations that could slow the growth of mining, which may in turn have an outsized impact on smaller miners.

Lack of new infrastructure: Australia will need more mining-related infrastructure to prevent future bottlenecks and – partly due to the cost and regulatory issues flagged above – we are struggling to win the investment required to build it.

Falling productivity: Even though we have plenty of new capacity coming online, the bad news is that our efficiency is slipping. Our mining productivity is still solid, but it has declined sharply over the past decade at a time when other nations improved theirs.

Questions about coal: The world is worried, not merely about greenhouse gas emissions, but also about air quality. Indeed, a new study has estimated 500 million citizens in northern China will live on average 5.5 years less than they should, due to the region’s coal-related air pollution.⁷ While we expect coal sales to continue rising and for coal to remain an anchor asset of Australia’s mining sector, these concerns are causing growth to shift from coal to gas and alternative energy sources. As we note later in this report (see page 48), the factor that could make a difference is potential advances in the cost effectiveness of clean coal technologies.

Figure 13: Projected global growth in commodity demand



Source: Deloitte Access Economics

⁷ Chen, Yuyu et al., ‘Evidence on the impact of sustained exposure to air pollution on life expectancy from China’s Huai River policy’, Proceedings of the National Academy of Sciences of the United States, 28 May 2013.

Current wave Mining

Positioning for prosperity

There are many reasons to be hopeful about Australian mining's future, but there is also work to do to ensure we maintain our leadership. As BHP Billiton's Andrew Mackenzie added in his speech: "The question is not if Asia's demand for commodities will be met, but rather which countries will deliver the supply."

As the discussion above highlights, we have a range of other questions to address. These include:

- How can we rebuild our reputation for regulatory stability to win back the confidence of international investors and potential partners?
- Can we review the breadth and complexity of regulations around mining, to ensure they are efficient and valuable?
- How can we make our infrastructure more efficient and effective, including avoiding the duplication of non-competitive facilities such as ports and rail?
- Are there ways to mitigate concerns about coal, such as further investment in clean coal technologies?
- Could miners explore new funding models to improve cost competitiveness, such as divesting assets to infrastructure funds?

Most importantly, how can industry and government work together in a more coordinated and sophisticated way, and how can they better engage with the community?

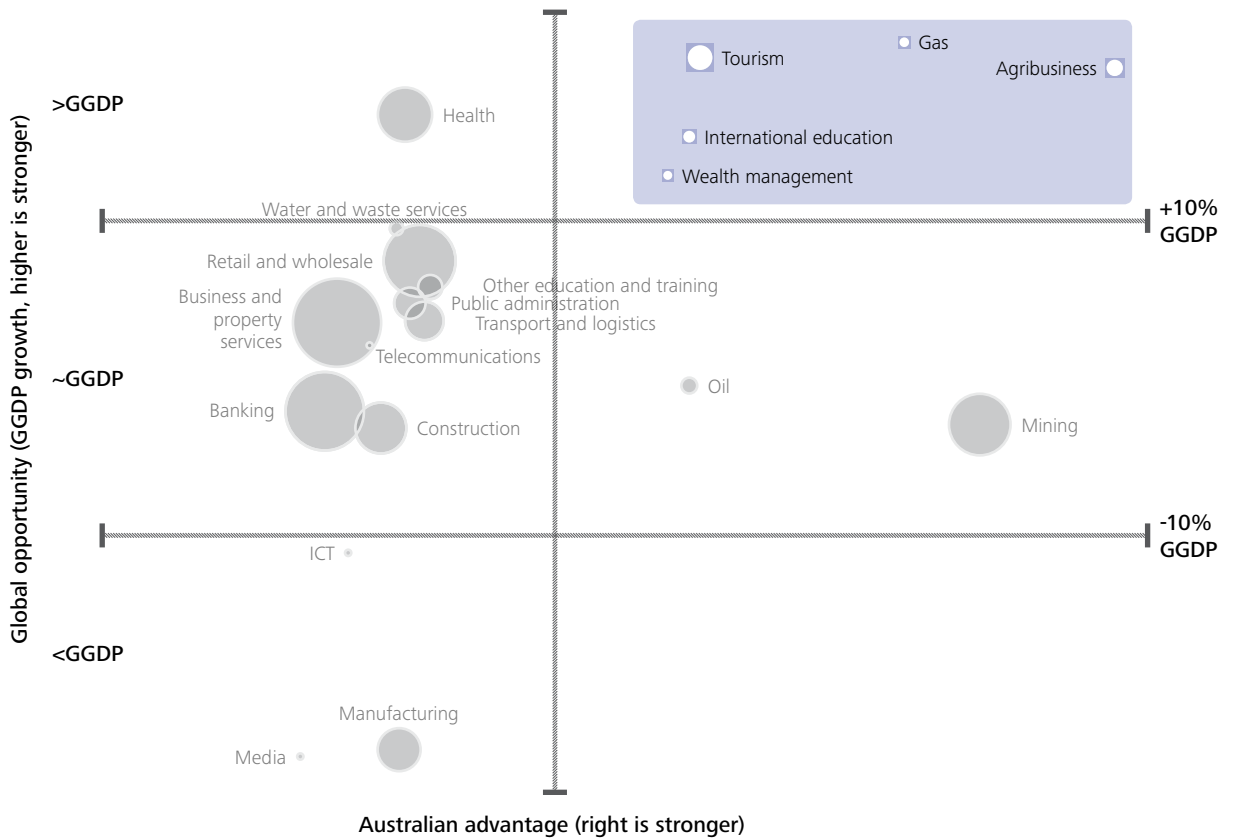
We'll need to find answers to all these questions in order to maintain our position in mining and win future rounds of investment. It's worth keeping in mind that every investment round we miss represents a 20-year head start for a competitor nation.

There are many reasons to be hopeful about Australian mining's future, but there is also work to do to ensure we maintain our leadership.

The Fantastic Five

Collectively, gas, agribusiness, tourism, international education and wealth management have the potential to be as big as mining.

Figure 14: Australia's next growth waves



Source: Deloitte Access Economics

Australia's forgotten hero

Global growth rate: 4.06%
Australian advantage: 16.2*

Many have long hoped that Australia's red heart would blossom like the U.S. Midwest did a century ago. But we didn't have enough water: Australia is the world's driest inhabited continent. This conundrum – we have lots of land, but a limited ability to use it productively – has long since constrained Australian agribusiness.

We have also seen the farm sector's share of our national income plummet, from one-sixth of the economy half a century ago to just one-fiftieth today. So, not many Australians would look at agribusiness today and see great potential.

Yet they'd be wrong. Why?

The world will knock on our door

Key drivers of global demand are lifting, including population growth in key markets.

Global food demand will rise alongside the world's population, which is expected to grow by 60 million people a year over the next 20 years. Many of these new citizens will be in India and Africa. Viewed another way, the world's population will rise by the size of India today.

But that is just the increase in baseload demand. Income growth in key markets will be much more important still. As incomes rise in emerging economies, so too does kilojoule intake and, more importantly, a switch to protein takes place. The latter will power a dietary shift from grains and cereals towards meat, dairy, fruit and vegetables. That means a swing to more intensive land use. Simply put, the world is on the cusp of a leap in demand for higher-value food products.

Moreover, at the same time that demand will lift, supply from much of the rest of the world – especially Asia – will be under pressure. Emerging Asia is on the move, with the process of urbanisation turning high-value farms into homes and factories. Many major producers, including the U.S., also face long-term water shortages in key productive regions.

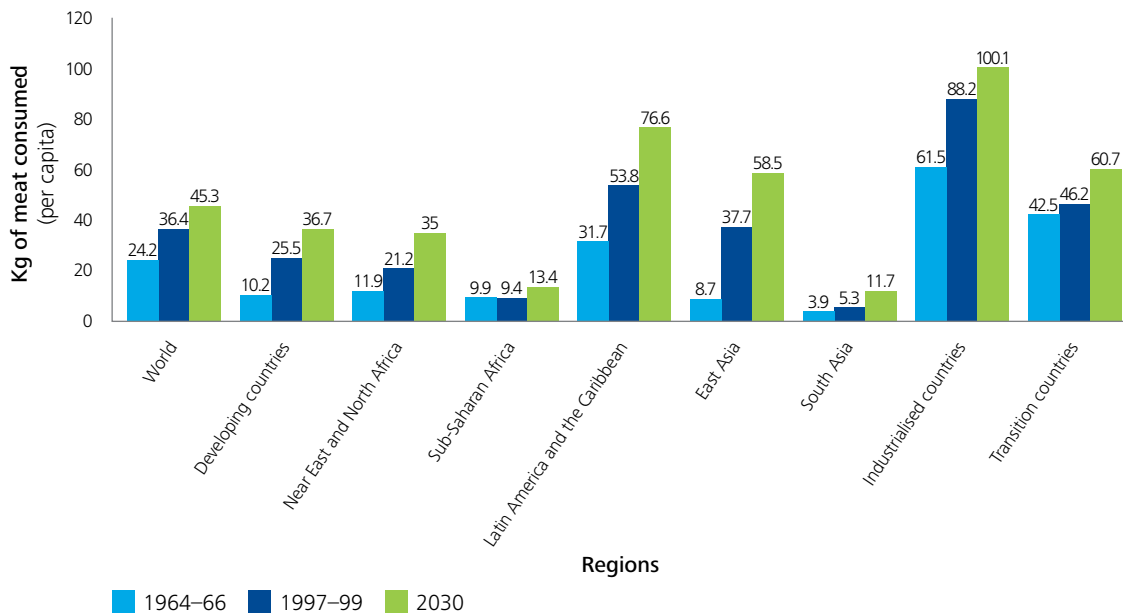
Figure 15: Australia's farm sector as a proportion of national income



Source: Australian Bureau of Statistics

* Our Australian advantage score ranges from 1.0 to 16.2, as shown in Figure 8 and discussed in Part I and the Appendix.

Figure 16: Global demand for protein



Source: World Health Organisation

We have the goods

What has Australia got to offer that our competitors will be hard-pressed to match?

Lower dollar: The pain of currency strength – a key negative in the past decade – is not permanent. As noted in Part I, Deloitte Access Economics estimates that the A\$ will settle at closer to U.S.80 cents in the longer term.

Fresh product: The same factors that have driven higher-income consumers in the developed world towards fresh produce will do so for the vast numbers of people entering Asia's middle class. Within two decades, this group, some of whom are already buying Australian mangoes at \$30 a pop, will comprise almost half of the world's middle-class consumers. We are also well placed to ship to Africa. That's a lot of growth in prospective buying power for fresh, high-quality produce from Australian producers.

Boring is beautiful: As the world's population and income rise, so the premium on secure sources of food supply will jump. And Australia has that marvellously undervalued asset to capitalise on here: we're boring. Reliance on Australian produce will be 'safer' than many alternatives, in terms of both food quality and the reliability of supply.

Gains from innovation: As a dry continent, Australia has much to gain from any technological advances that enable farmers to increase yields from poor soils and semi-arid conditions. Indeed, if we were to do more to focus our scientific research on areas of potential economic gain, this would be an attractive target. Such efforts might include seeking to make greater use of genetically modified organism (technology), which is likely to become more publicly acceptable over time. And while Australia has largely eschewed genetically modified organism (GMO) technology, we do have the potential to unlock more productive capacity by using it to support dry-land farming.

Next waves Agribusiness

Fish farms: Global tastes for fresh fish and seafood in a period of declining natural stocks will encourage greater investment and innovation in aquaculture. Already started, the billion-dollar Project Sea Dragon in the Top End aims to breed up to 100 million juvenile prawns a week, most destined for Asia.⁸

Plants as factories: The most rapid growth in business opportunities during the past decade has been in using farms for non-food production. For instance, emerging technologies raise the prospect of growing algae to create 'green crude' (see box).

Green crude to fuel 21st century?

It turns out that humble algae – the green sludge that builds up if you don't clean your pool – can be cultivated to produce oils that can power machinery. Even better, Australia is bountiful in the three raw inputs needed to kick-start a competitive algal biofuels industry: non-arable land (which can't be better used for agriculture), ocean water and sun.

Today, research into algae production for fuel is being spearheaded by a group of well-funded start-ups that have coalesced in San Diego in the U.S. These are companies like Sapphire Energy, Cellana and Synthetic Genomics, which have deep-pocketed backers that include the likes of BP, ExxonMobil and Bill Gates's Cascade Investment fund.

Australia's strongest suit is likely to be combining its optimum conditions with the know-how of these well-funded biotech start-ups to foster a new industry here. This process is already underway. For example, America's Aurora Algae recently secured a \$2 million Low Emissions Energy Development (LEED) grant from the Western Australian Government to advance the production in Karratha, WA, of algae-based biomasses suitable for use in nutraceuticals, pharmaceuticals, aquaculture and renewable energy.⁹

Better water pricing: Moves to improve the pricing and management of water will clear the way for better land use. If water could be better priced and permanent trading of water rights was to be encouraged, there may be further potential to realise value from grain crops.

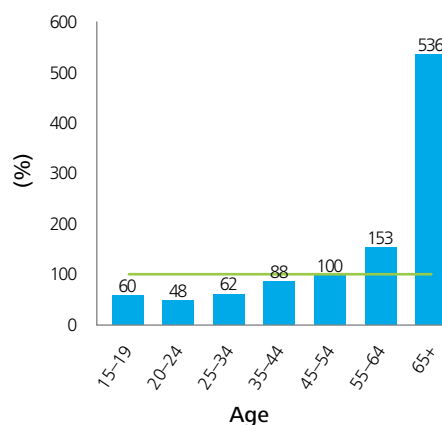
But there are big challenges

Agribusiness may be about to reclaim centre stage as a potential prosperity driver, yet we'll have to navigate some shoals first – especially over the next decade.

Age will weary them: Our farmers are old, and getting older, with the average age of Australian farmers at 52, 12 years above the national average for other occupations.

Farmers are five times more likely than the average person to still be working over the age of 65 (Figure 17). The retirement of many farmers in the coming decade will mean Australia's relatively high dependence on 'family farms' will come under increasing pressure. At the same time, younger workers who might have once worked on farms are now being lured into more lucrative careers, especially in mining.

Figure 17: Age distribution of farmers relative to all other occupations



Source: Australian Bureau of Statistics

8 Thompson, Brad, 'Prawn farm venture closer', *The West Australian*, 19 June 2013.

9 Aurora Algae, 'Aurora Algae Secures Full \$2 Million LEED Grant for Successful Production of Algae-Based Platform', press release, 27 September 2012.

Family business: Most Australian farms are family-owned, with the large majority of broad-acre and dairy farms operated by owner-managers.¹⁰ But the stats show big farms make more money than their smaller counterparts. The largest 10% of Australian farm businesses produce over 50% of output, while the smallest 50% account for just one-tenth of output.¹¹ So the retirement of many Australian farmers won't just produce skill shortages on a huge scale, it will require many businesses to change hands. It has been estimated there will be a need for up to \$400 billion to fund these ownership transitions. A further \$600 billion may be needed by 2050 to improve the productivity of Australian farms.¹²

Too few students: The number of students studying for agricultural qualifications has virtually halved in the past decade, as mining and other careers have offered better prospects.¹³ This means there are now vastly more agribusiness jobs than qualified graduates.

Bridges to mend: Australia has recently rattled its trading partners and investors with moves such as cutting off live cattle exports to Indonesia. We need to rebuild trust and our reputation.

Roads to nowhere: It is fortunate that we're close to burgeoning Asia, but within Australia much of our produce travels from farm to port on relatively inefficient roads, instead of by rail. Improving our transport mix and other infrastructure would greatly improve our competitiveness.

There are also a range of other challenges: land on Australia's urban fringes is more valuable for residential development than horticulture; global warming is sending Australia's rainfall to the north and west, challenging existing patterns of land use; and foreign investment in farmland is stirring passions.

Positioning for prosperity

There are certainly big challenges ahead. Yet agribusiness has something most other sectors don't: the prospect of rapid increases in global demand meeting domestic comparative advantage. This means Australia can be a long-term winner in this sector, particularly in grains, beef and dairy, wine, oil seeds and emerging areas like aquaculture.

But business and government will need to take bold steps, especially in the next 10 years as many of our biggest challenges hit home. If we do, then we're confident that agribusiness – the forgotten hero of Australia's economy – can rise again.

Given our challenges, can we:

- Find ways to promote our safe, fresh and abundant produce to the world more effectively?
- Think laterally and invest in developing new areas of business, including aquaculture and algae, and new regions of the country?
- Invest in technologies and implement new policies and approaches to make us a world leader in producing value from semi-arid land?
- Make agribusiness attractive again to graduates, and enhance the education we provide?
- Attract the capital that will be required to manage the coming enormous transition from family-owned to corporate farms, and the accompanying generational change?
- Improve the quality and quantity of infrastructure available to our agribusiness sector, including roads, rail and ports which are also in hot demand among miners?

10 Australian Bureau of Statistics, 4102.0, Australian Social Trends 2003, 'Living arrangements: Farming Families', 3 June 2003.

11 Australian Government Productivity Commission: 'Trends in Australian Agriculture: Productivity Commission Research Paper', 2005.

12 ANZ insight, 'Greener Pastures: The Global Soft Commodity Opportunity for Australia and New Zealand', Issue 3, October 2012.

13 Allen Consulting Group, 'Rebuilding the Agricultural Workforce', January 2012.

How lucky can we get?

Global growth rate: 4.11%
Australian advantage: 11.9*

Technology has revolutionised the globe's gas production potential, increasing accessibility and reducing the cost of an energy source that is much cleaner and greener than coal or oil. This has occurred at the same time as concerns about air quality in rapidly growing cities have been catapulted to the top of political agendas in countries such as China, while various nations also seek to improve their energy security through diversification.

That's a magic mix of global supply and demand. And it means that tapping and exporting gas is likely to continue to be one of Australia's brightest growth engines for the next two decades – with its output growth expected to be faster than that of any other sector. Indeed, look no further than the U.S. to see how gas can re-engineer a country's fortunes, with the burgeoning shale gas industry there helping to fuel its recovery. Some are forecasting that the U.S. could become the world's largest energy producer as early as 2018.

The good news is that Australia has vast reserves of conventional and unconventional gas. Even better, there is some \$200 billion worth of shiny new infrastructure under construction and due to come online by 2017, just as global demand is booming. And global demand for gas could potentially expand further. For all these reasons, gas sits high on our list in terms of global growth potential and Australian advantage.

But can we keep our good run going? The combination of global opportunity and Australian potential is no guarantee that the Lucky Country will be so lucky again.

There are big question marks over whether Australia can continue to attract the high levels of investment needed to capitalise on our natural good fortune. Have we made ourselves so expensive and difficult to deal with that we get passed by? Might we see our biggest opportunity become just another good line of business for Australia Ltd?

It's a revolution

The oil and gas industry will soon make up about 2% of Australia's economy, with the majority of that now coming from gas. Australia's output of liquefied natural gas (LNG) is expected to rise by 250% between now and 2017–18. If we achieve that, we could surpass Qatar to become the world's top LNG producer.

This growth is occurring because gas has commanded a huge share of this nation's capital spending in recent years, with the construction of plants across western and northern Australia (including Queensland's Curtis Island) representing about one in every three dollars of the nation's entire business investment spend.¹⁴

This boom has been further fuelled by Japan's post-Fukushima desire to move away from nuclear power and towards gas-based energy. Yet the popularity of gas is more widely based than that. It is clean and green in a way that coal and oil are not, and this is driving demand among countries looking to lift air quality and cut greenhouse gases.

Most tantalisingly, it has been estimated that there is up to another \$180 billion in gas projects under consideration in Australia. If these were all to go ahead, they could create 150,000 jobs and deliver tax revenue of \$5 billion a year.¹⁵

* Our Australian advantage score ranges from 1.0 to 16.2, as shown in Figure 8 and discussed in Part I and the Appendix.

¹⁴ Deloitte Access Economics, 'Building prosperity: Harnessing Australia's comparative energy advantage', APPEA conference paper, 12 May 2011.

¹⁵ McKinsey & Co., 'Extending the LNG Boom: Improving Australian LNG productivity and competitiveness', April 2013.

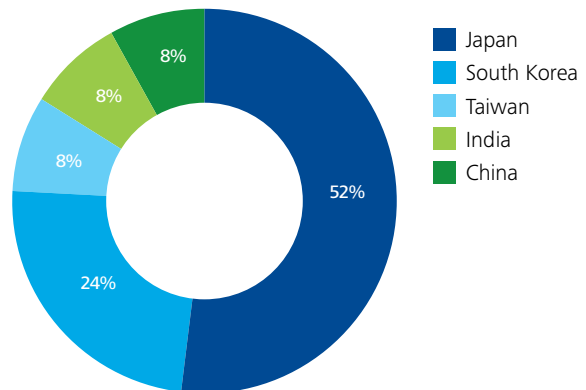
Our advantages

We're blessed: After coal and uranium, gas is our third-largest energy resource. In addition to holding large reserves of conventional gas – mainly in the Bonaparte, Browse and Carnarvon basins – we have a maturing coal seam gas industry and the seventh-highest amount of technically recoverable shale gas in the world.¹⁶

Enormous demand: The demand for gas is vast. As the U.S. has demonstrated, countries keen on clean city air see gas as a great substitute for coal in power generation. To put that in perspective, on an energy-equivalent basis China consumes about six times the global LNG market in coal for power and heat generation. LNG can also power mining and construction equipment, trains and trucks. Additionally, new, more restrictive rules on marine fuel emissions are opening up a market for LNG in shipping. Even if only a tiny portion of all this demand eventuates, the global gas market will be enormous. China, for example, is expected to increase imports of LNG tenfold between 2011 and 2030.

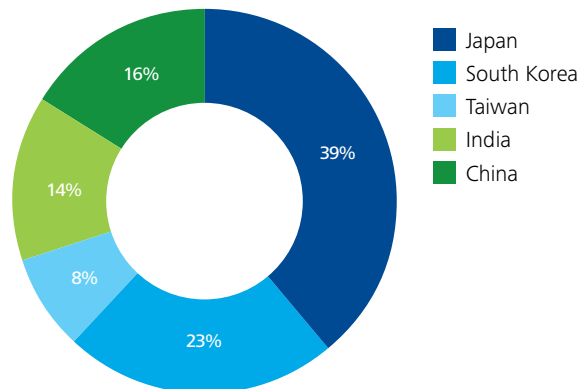
Open markets and strong partners: Australia is one of only a few countries that allows foreign investors to take a direct ownership share in gas fields, and to separate surface and mineral rights in ways that facilitate access to resources. This has helped us become an investment location of choice for global players wanting secure access to energy. And now that a Who's Who of international and state-owned oil companies have committed billions of dollars to local projects, they share an interest in ensuring the success of the Australian industry.

Figure 18: Asia-Pacific LNG demand (mtpa), 2011



Source: BP 2011

Figure 19: Asia-Pacific LNG demand (mtpa), 2030



Source: Institute of Energy Economics Japan 2011

¹⁶ U.S. Energy Information Administration, 'Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside the United States', June 2013.

Next waves Gas

Head start on the competition: Gas is an example of a wave that lifts all boats, but none equally. For instance, although the U.S. is now a global player in gas it could face internal opposition to exports if domestic prices lifted. Canada is yet to fix its tax regulations to spur investment, and locals are opposed to pipelines winding through their backyards from gas fields to the coast. Across the Bering Strait, Russia can build pipelines to China but it has also wielded access to gas as part of its foreign policy, so it would need to reassure buyers it is a stable supplier that can commit to 30-year deals.

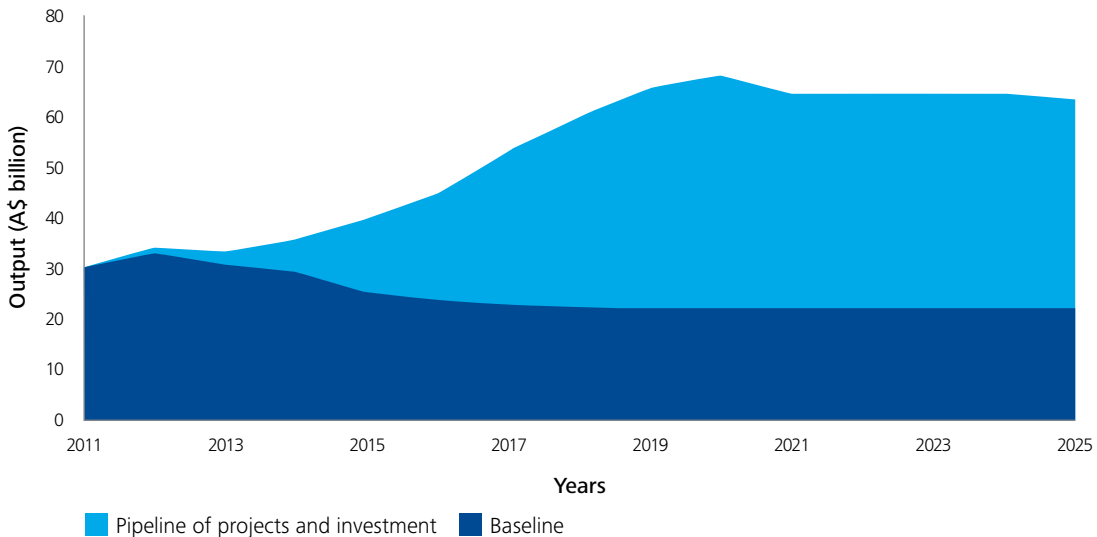
Location: Gas is difficult and costly to store and move, so Australia's location near key buyers in Asia is a significant source of competitive advantage.

Yet we could blow it

The extraordinary thing is we're doing our best to blow our lead in gas by becoming a high-cost, high-regulation and somewhat fickle investment destination.

High costs: Even ignoring the impact of the high A\$, the cost of labour and critical inputs has skyrocketed in Australia over the past few years. This has made the cost of building LNG projects higher in Australia than in alternatives such as East Africa and North America. The culprits are low productivity, weak innovation, and a lack of collaboration within the sector and with government. Accordingly, although the global opportunity is great, on current indications, Australia's share of the next round of global go-aheads may be very small. Hence, although the current round of investments is turbocharging the outlook for Australian output, cost concerns will need to be addressed to power us beyond 2020.

Figure 20: Oil and gas industry output profile, existing and new developments



Source: Deloitte Access Economics

Regulatory burden and sovereign risk: As well as changing the tax rules applying to gas-related projects and multinational companies, successive Australian governments have introduced green and red tape that is slowing projects and discouraging groups from starting new ones. Combined with vacillation over climate change policy, these moves have made Australia less predictable to global investors and have left us saddled with a reputation for sovereign risk.

Positioning for prosperity

So, gas is big. While there are plenty of headlines about alternative gas and renewable energy sources, the reality is that the world's energy mix will stay fairly consistent for at least the next five to 10 years. And a major and growing part of that mix will be gas.

Ensuring that Australia realises the full potential of gas will revolve around our ability to intervene to improve productivity, enhance infrastructure and make our regulatory environment more attractive to investors and operators.

A critical priority is securing the next round of gas investments from deep-pocketed global investors before those dollars head off to North America or Africa. To win this money, we need to show that Australia can deliver a high-quality product at globally competitive prices for many years to come. Right now, no one is questioning our quality or ability to deliver, but everyone is worried about rising costs and complexity.

Realising the full potential of gas will depend on our ability to improve productivity, enhance infrastructure and make our regulatory environment more attractive to investors and operators.

Australia should start by controlling what it can, which primarily means taxes and regulations. With that in mind, some issues to consider are:

- Is there room to streamline visa requirements for gas sector workers?
- Could we review regulatory and approval frameworks to reduce unnecessary duplication and obstacles?
- Can we set firm policies on taxation, climate change and carbon trading?
- Could the development of unconventional gas sources be better supported, and can this new industry do more to reassure concerned communities and authorities?
- Is there scope to lower costs through greater collaboration, better sharing of infrastructure, including pipelines and ports, and improved planning across all areas of the resources value chain?

Opening our doors to a new generation

Global growth rate: 4.08%
Australian advantage: 8.2*

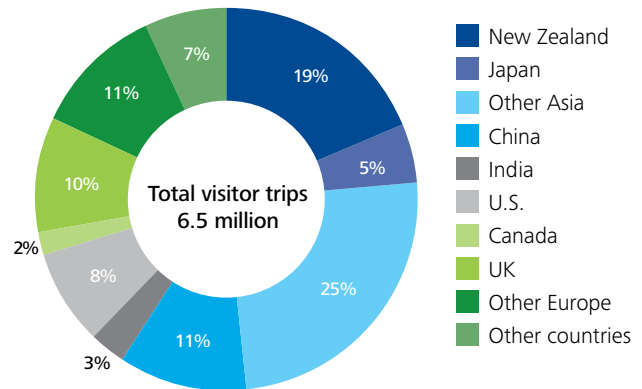
Brand Australia has long lauded its natural wonders, wide-open spaces, distinctive landmarks, fine food and wine, and sophisticated urban centres in order to lure foreign visitors. This strategy has largely worked. In 2013, international visitor arrivals increased another 5.5% and those guests spent \$19.3 billion in Australia.¹⁷

Yet there are important challenges. Visitor numbers may be growing, but the last decade saw them grow at only about one-third the rates seen in the 1980s and 1990s.

However, there is a lot more potential growth in the pipeline, with tourism projected to be among the world's fastest-growing industries. Our forecasts have it growing 4% a year from now to 2033 – that is, more than doubling in size over the next two decades. Even better, many of those new travellers will depart from Asia. China already has the largest spend per visitor and as Figure 22 shows, the prominence of China and more broadly Asia will only grow over time.

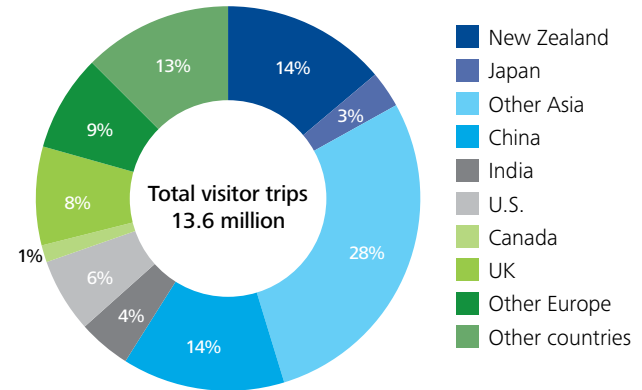
Asia-based groups are directly investing in this growth. In March 2014, the Foreign Investment Review Board approved plans for a \$4.2 billion resort and casino complex near Cairns, driven by the Hong Kong-based group Aquis.¹⁸

Figure 21: Share of visitors by international source market, 2013



Source: Australian Bureau of Statistics

Figure 22: Share of visitors by international source market, 2033



Source: Deloitte Access Economics

* Our Australian advantage score ranges from 1.0 to 16.2, as shown in Figure 8 and discussed in Part I and the Appendix.

¹⁷ Tourism Research Australia, International Visitors in Australia: September Quarter 2013.

¹⁸ 'Chinese developers get OK for \$4.2 billion mega-resort near Cairns' The Sydney Morning Herald, 5 March 2014.

Why we can win

Australia looks set to enjoy outsized gains from this new travel wave, aided by our attractions, a fall in the A\$ and a conscious growth strategy across the tourism industry and our governments. Specifically, demand for Australian tourism is driven by:

Proximity to Asia: Australia is ideally located to capitalise on the burgeoning Asian middle class and the demand for international travel this is generating.

Beautiful natural assets: Australia has nearly 60,000 kilometres of mostly unadulterated shoreline, an average of 3,000 hours of sunshine a year, and a variety of climates from sunny, tropical and Mediterranean to snowy. Our land features are varied, including rainforests, urban areas and, of course, our coveted beaches and outback. We also offer spectacular destinations including Sydney Harbour, the Great Barrier Reef, Kakadu and the Uluru-Kata Tjuta National Park.

Safety and languages: Australia is a politically and environmentally safe destination, largely free of the strife that marks many exotic locations around the world. We also offer the convenience of being both English-speaking and offering other languages due to our multicultural heritage.

Cheaper flights: Increased air access, greater levels of competition and low-cost carriers offering more flights into Australia have created many more affordable options for tourists and business travellers.

Education as a drawcard: The calibre of our educational sector encourages foreign students to become 'education tourists' who in turn encourage friends and family to visit.

The need to renew our infrastructure

An earlier generation of European and American tourists were attracted to Australia by our beaches and outback. While these drawcards remain, tourists from Asia also seek high-end experiences and entertainment. Unfortunately though, our tourism infrastructure hasn't always kept pace with this changing demand. We face other obstacles as well.

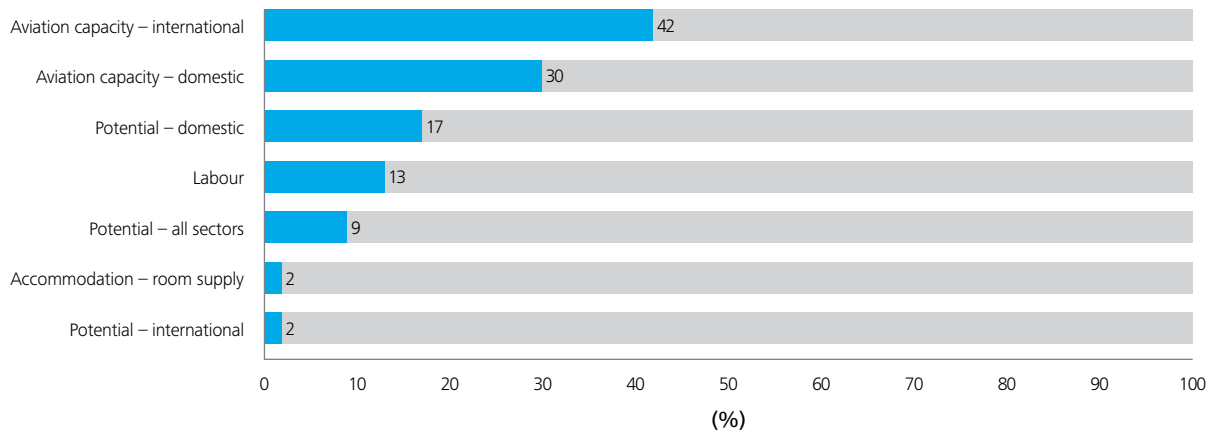
Trouble getting about: Travelling to and around a big country like Australia is a logistical challenge made more difficult when transport corridors are clogged, or near capacity. The government projects that by 2020, domestic aviation capacity will have to grow by up to 30% and international aviation capacity by up to 40% to handle increased visitor numbers. For those arriving by sea, the story is much the same – our port infrastructure needs to be upgraded to support the world's biggest cruise liners. Some of our busiest roads and highways also need upgrades to handle projected demands.

Too few rooms: The most immediate constraint from a traveller's perspective is simply getting a room at the inn. Since 2004, accommodation use has increased by an average 3% p.a., whereas the supply of rooms in capital cities has only increased by 2% p.a.¹⁹ Although there are signs that rising profitability and the coordinated promotion activities of industry and government are spurring investment, the industry will have to work hard to meet the Tourism 2020 target of 40,000 additional rooms. As Figure 23 shows, although we are making good progress in airline capacity, it is in building new rooms that the industry's performance has been most lacking to date.

¹⁹ Australian Bureau of Statistics.

Next waves Tourism

Figure 23: Tracking progress against Tourism 2020 targets



Source: Tourism Research Australia

Scarce skills: The mining boom has had an impact on the number of workers available to fill hospitality positions, with industry analysis estimating that about 35,000 jobs may be unfilled.²⁰ The critical challenge of ensuring we have a tourism workforce capable of giving visitors a world-class experience will remain.

Challenges of a cottage industry: A quaint bed and breakfast is very appealing for a weekend getaway, but the dominance of smaller Australian tourism operators can result in a fragmented experience for visitors. The industry is seeking to resolve this with solutions such as the Australian Tourism Data Warehouse to centralise content and facilitate the distribution of tourism offerings.

Positioning for prosperity

To make the most of this potential growth wave, we need to ensure that the attractiveness of Australia's unique tourism assets outweighs the limitations of our tourism industry.

In addition to rolling out effective marketing campaigns, we need to be investing in the tourism infrastructure, hotel capacity and people skills that will be required to comprehensively support larger numbers of tourists with more diverse tastes.

The questions here are:

- Do we have a truly national and shared vision for the future of our tourism sector?
- Are we investing in the tourism infrastructure that Asian tourists will want?
- Does the position of tourism within government need to be elevated?
- Is there greater room for cooperation between industry and our three layers of government?
- Could we be doing more to exploit the link between tourism and our other globally oriented industry sectors, such as education and financial services?

²⁰ Deloitte estimate, 2011.

Going to the top of the class

Global growth rate: 3.90%
Australian advantage: 8.0*

Teaching foreign students is Australia's fourth-biggest export earner, generating \$15 billion a year in income and employing about 100,000 Australians.²¹

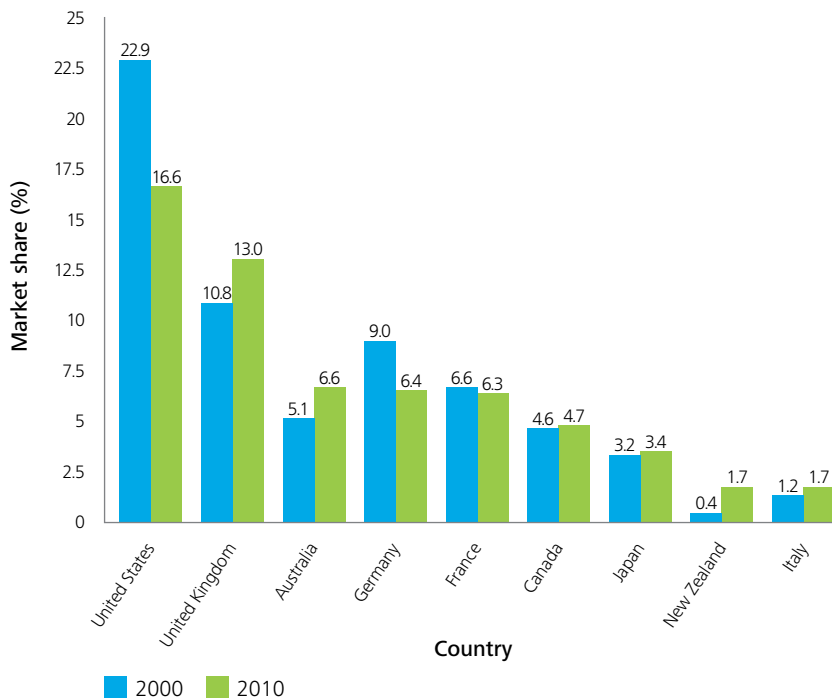
Growth in this industry has increased expertise and infrastructure, creating economies of scale over and above those usually available to a nation of 23 million people.

Although we may never compete on a level playing field with the likes of the U.S. and the UK with their huge populations and elite institutions, there's no doubt we're riding this wave for all it's worth, with a remarkable market share given our size.

The future potential is also enormous as the emerging economies of today will become the knowledge economies of tomorrow.

Global demand for educational services is about to soar as a result, and is expected to swell by about 7% a year between now and 2020. The rise of China and India, in particular, will be central to the growth in globally mobile students.²²

Figure 24: Market share of foreign students in tertiary education



Source: OECD, *Education at a Glance 2012*

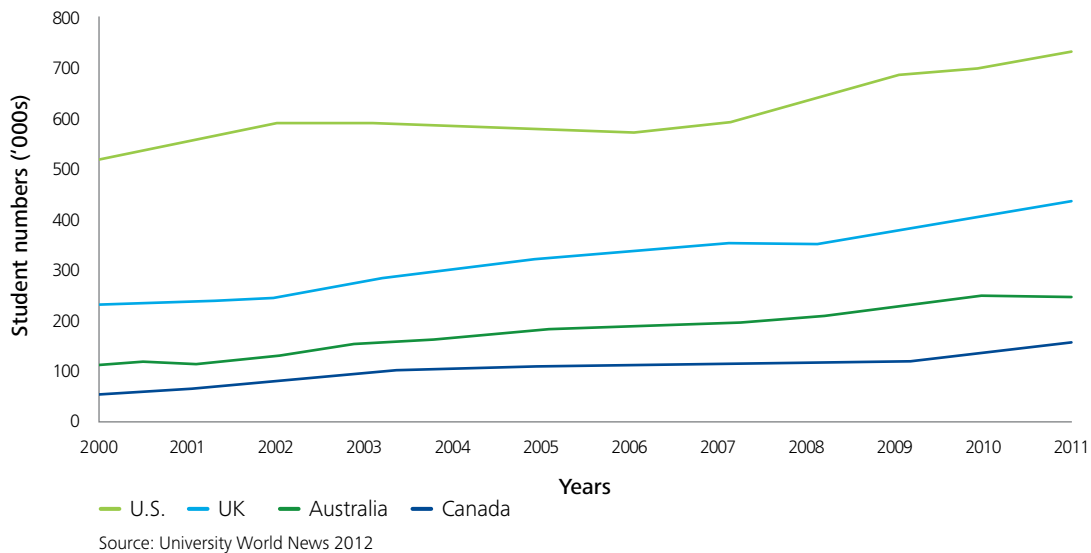
* Our Australian advantage score ranges from 1.0 to 16.2, as shown in Figure 8 and discussed in Part I and the Appendix.

21 Research Snapshot, Australian Education International, May 2013.

22 van Onselen, Leith, 'Temp migration to boom on Chinese students?' Macro Business (macrobusiness.com.au) citing HSBC research, 20 June 2013.

Next waves International education

Figure 25: Global growth in foreign student enrolments



There are also positive side effects of this growth for Australia that are harder to quantify but no less important. These include strengthening cultural ties with other nations, especially in Asia. Education is an enabler of productivity and growth for virtually every part of the Australian economy.

Appealing to Asia's middle class

Australian education exporters have traditionally relied on our cost competitiveness, closeness to Asia and natural advantages as an English-speaking nation with respected business and management courses. Our position as a stable democracy that promotes free speech and expression, the rule of law and multiculturalism has also lured foreign students.

Looking ahead, technological changes mean that it's likely that having a globally recognised brand name, and being ranked highly on scales such as those that compare research expertise, will become increasingly important. Australia's relatively small institutions may not always sit at the top of such lists, but as a nation we do have a range of strong and defensible advantages.

Enviably lifestyle: Our sunny climate, clean cities and relaxed lifestyle help convince many students to come here. Lifestyle can also be important to families wanting to resettle in Australia through the gateway created by their children studying here.

English is spoken inside and outside the class:

The past few decades have seen English cement its position as the world's business language and its *de facto* cultural communication standard. That puts Australia's education providers on an equal footing with the other leading educational destinations of the U.S. and the UK.

A path to residency: Australia's many attractions will sustain its position as one of the world's top 'migrant magnets' (alongside Canada and the U.S.). Studying here will remain a great 'try before you buy' opportunity for students, meaning we can sell both education and migration potential. Today, about one-third of overseas students stay in or return to Australia once they have completed their studies.

Specialist courses: We have a competitive advantage in fields derived from the quirks of nature and history. For instance, Australia is a great place to study courses related to natural resources, such as geology and engineering. Our heritage as a dry continent also means we have expertise in arid agriculture, and land and water conservation and management – skills in great demand in the Middle East, for instance.

Research strength: Australia's investment in research and development and rigorous intellectual property protection make it a compelling place to bring new ideas to life. The new Australian Research Committee has noted our competitiveness as a place to do applied postgraduate research, then continue on into related jobs.

Old school ties: Our secondary school system is especially valued by overseas students and is seen as a path into tertiary education. Studying here in the formative secondary years also helps students acclimatise to the Australian way of life and build support networks that are useful as they continue their education and move into the workforce.

Competing in the global schoolyard

While the global education market will grow, there are formidable challenges for Australia to overcome.

These threats include the global ambitions and deep pockets of American Ivy League universities and other top institutions being turbocharged by new technologies that place them just a click away from students. The arrival of massively open online courses (MOOCs) also provides a way to educate huge numbers of students at little to no extra marginal cost per individual. MOOCs are yet to replace classroom tuition but they represent a growing challenge to our institutions, especially those that compete with global brands.

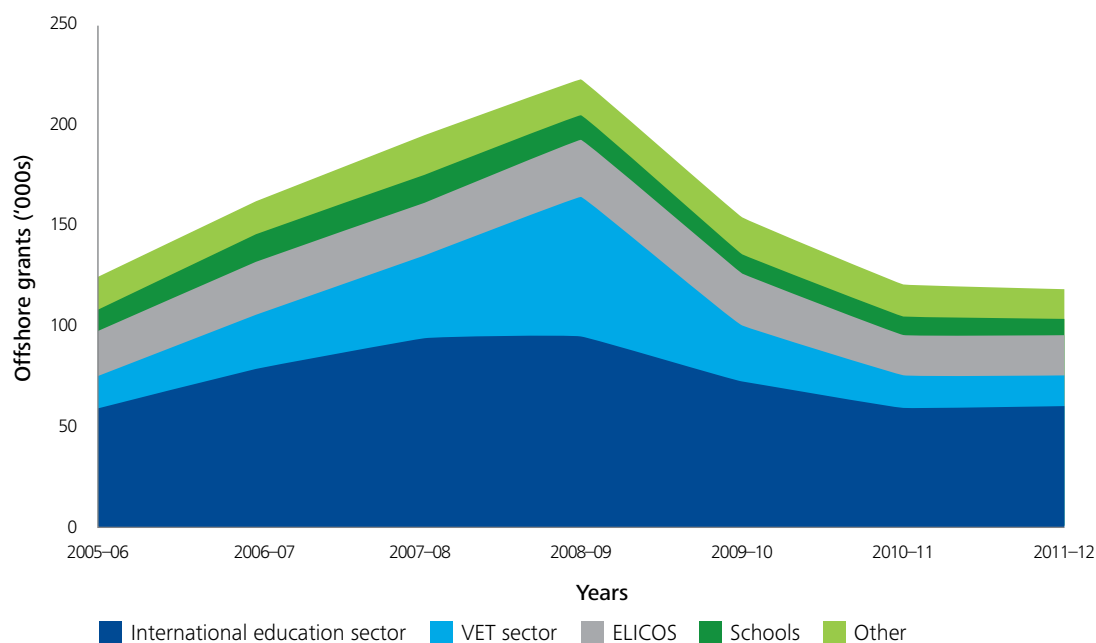
Another issue is that international student enrolment growth rates declined between 2009 and 2013, due to the perceived poor value of some of our qualifications and high costs resulting from a strong A\$. There have been times in recent years when it has cost more to study in Australia than in the U.S. or the UK, though fortunately this issue is receding as the dollar falls. These problems may be exacerbated by current 'efficiency dividend' funding cuts at our universities.

Finally, the low prestige associated with teaching in Australia has deterred generations of potential educators from joining the profession. The flow-on effect of this has been low tertiary entry scores for aspiring teachers (to encourage students into the profession) and a subsequent decline in the quality of teaching.

**Education is an enabler of
productivity and growth for
virtually every part of the
Australian economy.**

Next waves International education

Figure 26: Offshore international student visa grants



Source: DIAC 2012

Note: VET = Vocational education and training; ELICOS = English-language courses for overseas students.

Positioning for prosperity

Australia is at a critical juncture in its education policy. On the one hand, effective and targeted changes could deliver significant benefits in terms of global competitiveness and export earnings, while providing the skills needed to enable other parts of the economy. On the other, the sector is facing serious challenges that will require bold action.

Some important questions to address here are:

- How can we tailor courses to meet the needs of foreign students, especially in areas of unique strength, such as dry-land agriculture, the environment and engineering?
- Are there ways to lift the quality of our teaching staff; for instance, by improving the status of educators at home or looking overseas for teachers, especially those with Asian perspectives?
- Could we do more to forge links between Australian educational facilities and overseas leaders to ensure we can offer superior higher educational 'products' in a more global and digital marketplace?
- How can we reduce red tape and restrictive visa rules that inhibit student migration? In particular, how can we retain top performers in Australia?
- Could we combat the perception that Australia is a high-cost place to study by better articulating the value that students gain by studying here?
- Would we benefit from proactively adopting enabling technologies – such as MOOC collaboration middleware and broadband – to facilitate research, meet overseas students' expectations and help Australian institutions to remain globally competitive?

Our super platform

Global growth rate: 3.81%
Australian advantage: 7.6*

The world is getting richer and older and as it does, the demand for wealth management services is increasing.

Securing wealth in retirement for many in the less developed world often relies on spreading the load onto the next generation, with children supporting their ageing parents. As incomes grow and the population ages, people increasingly look to wealth management providers to secure an income in retirement.

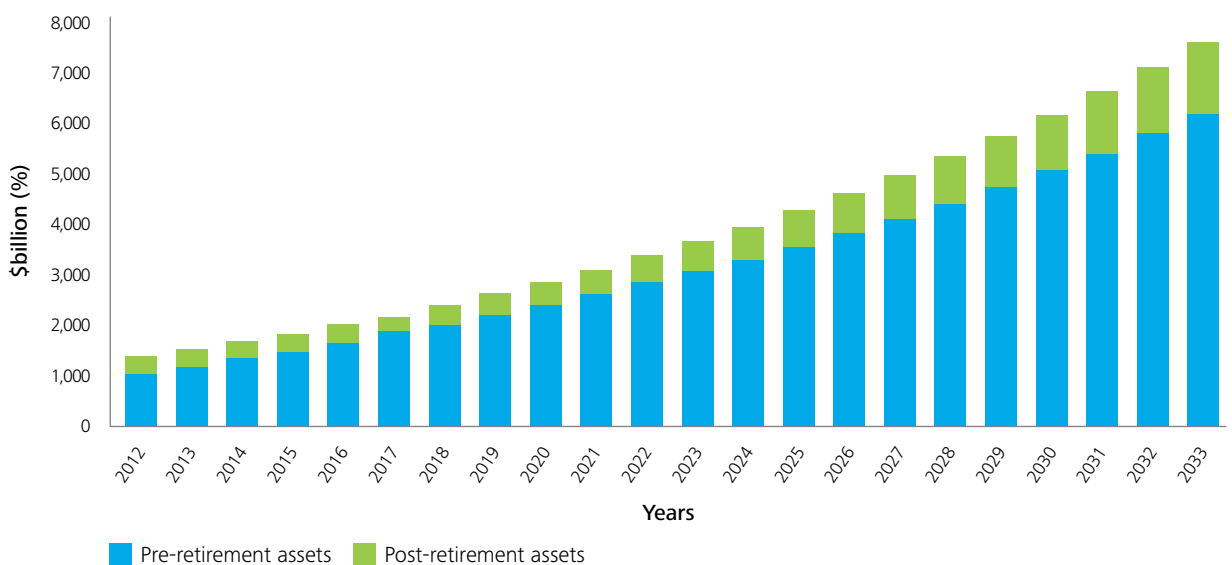
This is why global growth in wealth management products is on the rise, particularly in the Asian region where 3 billion people are predicted to join the middle class by 2030. By 2050, the region will account for more than half of the world's financial assets.

Asia is also set to become home to about half of the world's elderly. For instance, the United Nations predicts the number of people in China aged over 60 will increase from the current 180 million to 487 million by 2050.

Australia has an opportunity to benefit from an increase in demand for wealth management services, to become a financial services hub within Asia. Indeed, after 20 years of mandatory super, Australia does retirement income very well. The recent *Mercer Global Pension Index* ranks the Australian pensions system the third best in the world after those in Denmark and the Netherlands.

Funds under management (FUM) in Australia now total about \$2.1 trillion, split among superannuation (about \$1.5 trillion), life insurance, retail unit trusts and other vehicles. This is the fourth-largest asset pool in the world and growing, with Deloitte projections showing that the FUM is expected to more than triple in size to reach \$7.6 trillion by 2033.

Figure 27: Projected superannuation assets, 2012–33



Source: Deloitte Actuaries & Consultants

* Our Australian advantage score ranges from 1.0 to 16.2, as shown in Figure 8 and discussed in Part I and the Appendix.

Next waves Wealth management

Our advantages

Some reasons Australia has a comparative advantage in the wealth management arena include our:

Trusted reputation: The impact of the GFC on Australia, as compared to other countries, cemented our reputation as a safe investment location with sound financial institutions, a world-class financial regulatory framework and strong regulators. This picture is rounded out by our largely stable business sector and 22 years of consistent economic growth.

Savings model: Australia's defined contribution savings model is 15–20 years ahead of the prevalent defined benefit model used in most other developed economies. This means we are well placed to advise and influence the emerging Asian pension industry, which is moving more towards our defined contributions model. This will create a growing opportunity to provide advice on operating and improving pension systems, and associated technologies. For example, our development of open-architecture investment models will likely be replicated over time in the Asian markets, and Australia can help lead this change.

Skilled workforce: The scale of Australia's funds management industry has supported the growth of a relatively large and skilled workforce. Our professionals are especially adept at asset allocation, managing large funds, tracking indices, and designing and selling products to manage risk. In addition, Australian superannuation funds are increasingly investing offshore, which is broadening their capabilities and experience.

Cultural ties: After years of immigration, educational exchange, business activity and political cooperation, there are now many close ties between Australians and their counterparts in Asia. These ties affect everyone from young people to ASX 200 Chairs and CEOs who, as Deloitte's latest Board Effectiveness Survey found, are taking a much greater interest in the region. This is a subtle source of competitive advantage which will be hard for other nations to quickly replicate.

Leveraging these strengths

When it comes to building exports, the three areas in which our wealth management industry is most likely to play a part in the short to medium term are managing funds for foreign investors, advising other nations on how to build their own wealth management sectors, and supplying tools to help them do so. Longer term, developing a distribution network through alliances or acquisitions, combined with innovative product development, could help Australian businesses secure more success in the region.

Investing for others

Today, only \$75 billion of the FUM in Australia is being managed on behalf of foreign investors. We believe there is significant room to grow this pool, but that doing so will require us to address the tax and regulatory issues – many identified in the 2009 Johnson Report – that have prevented Australia from becoming a global financial services hub.

One area of potential strength is attracting more funds from Islamic groups in Asia and the Middle East for investment in Australian assets. Our investment offerings are capable of complying with Sharia principles because they are underpinned by physical assets such as farms, mines and other commercial real estate. Likewise, the development of education savings products could well link wealth management with one of the other potential growth waves, international education.

Product development: creating bonds

With Australia's proven ability to create financial instruments for global sale, there is an opportunity to expand our government and private bond markets and make them larger export earners. Breaking down the restrictions on inward and outward capital flows has the potential to further open up Asia's rich pools of savings.

Creating instruments that appeal to local and foreign investors would have the added benefit of providing new sources of capital to Australia's high-growth and capital-intensive industries, such as agribusiness and tourism, as well our many small to medium enterprises.

Yet we could miss the opportunity

So plenty of opportunity exists, but will Australian organisations benefit? The following are some of the more significant obstacles.

Domestic priorities: The Australian domestic market is growing and will continue to do so as the market develops and more citizens look to the post-retirement phase. It is also competitive. In turn, local wealth management firms need to invest in technology, digital strategies and product development. For some, this will mean there is more than enough to do locally without expanding their operations overseas.

Strong Asian competition: Asia is already well served by wealth managers, and other countries besides Australia are competing to become financial hubs of the region. Furthermore, the Asian market is not one market when it comes to financial services – there are many countries with differing languages, regulations, cultural norms and degrees of sophistication.

Hong Kong and Singapore in particular are at the centre of moves to open up the market, with initiatives like The HK-China Mutual Funds Recognition project and the ASEAN CIS Framework, as well as the Asian Region Funds Passport (which Australia has been key to developing). In turn, international players are increasing their presence in the region.

That presents a considerable challenge to Australia's potential in wealth management. This nation has a very competitive, efficient finance sector, but there are scale benefits in finance, and money tends to flow to the most efficient place. As a result, funds management is shifting to Hong Kong and Singapore. That provides these nations with an important platform from which they too can compete for Asia's wealth management market, and also raises the risk that, rather than grabbing market share internationally, our own wealth management markets may be threatened by foreign competition.

Taxation and regulation: The Johnson Report identified a number of taxation and regulatory hurdles that may impede Australia's success. Some of these are being addressed, but there is much to do and without substantial changes, success will be difficult to achieve.

Positioning for prosperity

Australia has an opportunity to leverage its strong domestic wealth management story to tap into the burgeoning Asian wealth industry. But the proposition must be compelling for our industry and we'll need to play our cards right to compete with the region's major financial centres, such as Hong Kong and Singapore, as well as global competitors.

On the positive side, Australia has recently acted on some of the obstacles to becoming a larger financial centre. This includes introducing the Investment Manager Regime to provide greater tax certainty to foreign investors, and working with other governments to develop the Asian Region Funds Passport, which should make it easier and cheaper to manage funds regionally through the harmonisation of regulatory frameworks. In 2013, Australia also became the third country to enter into an agreement to trade the Chinese renminbi directly on the Chinese mainland.

However, there are still plenty of difficult questions to answer, including:

- Can we further streamline Australia's regulatory and taxation environment to compete with other Asian financial centres?
- How can we attract global savings to Australia?
- Are we able to develop appropriate products to meet the needs of the diverse emerging Asian middle class and other international investors?
- Could we leverage our trade integration with financial firms, governments and companies to market our wealth management capabilities overseas more effectively?
- Are there ways to improve and capitalise on our business and cultural ties with individuals, business organisations and governments across Asia and beyond?

Future waves

Growth Pockets

Pockets of growth can be found in the big and primarily domestic sectors that make up the bulk of our economy.

Figure 28: Australia's future growth waves



Source: Deloitte Access Economics

Looking further afield

Australia is a small player in a big world, so our analysis to this point focuses on potential game changers that could allow our country to ride on the coat-tails of new global opportunities.

The result is our Fantastic Five of agribusiness: gas, tourism, international education and wealth management. Yet even if we are successful in riding these waves, they are only a tenth of Australia's economy – or a fifth if you add in the potential to get more out of our current wave: mining.

So the remainder of this analysis focuses on our potential to tap both global and local growth areas lying within the other 80% of the economy, allowing us to identify a wider range of potential success stories.

This chapter identifies the growth hotspots across the remaining sectors of Australia's economy that haven't yet been covered in detail; the likes of health, education, banking, retail and wholesale, construction, manufacturing, transport and logistics, public administration, oil, the utilities, ICT, telecommunications, business and property services, and media.

Indeed, almost all the heavy-hitters of our economy reside in this group. Added together, business services, banking, retail, health and construction account for more than half of Australia's economy and its jobs.

Slipstream Stars, Global Slivers and Local Heroes

From this group, we have singled out 19 specific opportunities – Growth Pockets – that we expect to arise over the next decade or two. If these opportunities have the same relative potential to unlock growth as the Fantastic Five, they could contribute more than an additional \$150 billion to Australian incomes in the next two decades – over and above the potential for \$250 billion of gains from the Fantastic Five.

Many of these new opportunities can be found at the intersection of sectors and wider trends such as demographic change.

In fact, the potential net is remarkably wide.

Some of these opportunities:

- Are a function of technology and others of demographics
- Will develop off the back of global growth, while others will be domestically focused
- Lie downstream of bigger growth opportunities; others are options in their own right
- Relate to older buyers; others relate to younger consumers
- Are already arriving, while others sit further out in time
- Are virtually done deals, while others are more speculative.

Given this diversity, we have consciously chosen three types of growth hotspots.

Slipstream Stars can hook into the opportunities created by the Fantastic Five and mining. These downstream opportunities will provide the potential for established but lower-growth sectors to prioritise good growth options.

Global Slivers have their own potential to play on the global stage. Some are smaller than the Fantastic Five, while others are more speculative or may be expected to develop later. However, they share a common characteristic: the ability to turbocharge their development by selling into world markets.

Local Heroes stand completely independent of our earlier analysis around mining and the Fantastic Five. Many of them revolve around the collision of megatrends – such as that of rising life expectancies, rising relative healthcare costs and tightening public sector health budgets. Even better, several of these high-growth opportunities are also low risk – a magic mix.

We've applied a trio of tests to those hotspots we considered as candidates for this list of potential Growth Pockets:

- How big is the opportunity?
- How quickly is it likely to develop?
- How likely is it to happen?

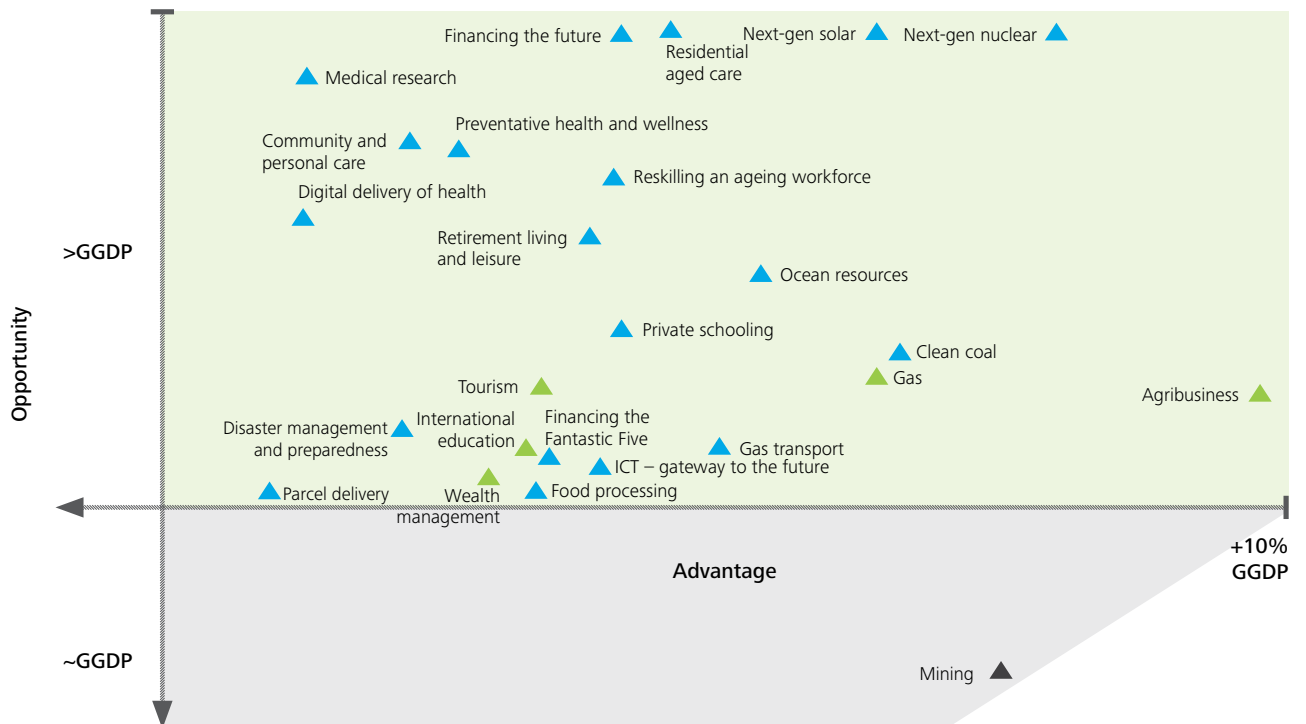
Future waves

The end result is shown in Figure 29. It includes Growth Pockets that are already substantial in size and with reasonably well-mapped growth prospects off the back of demographic drivers (such as private schools and aged care).

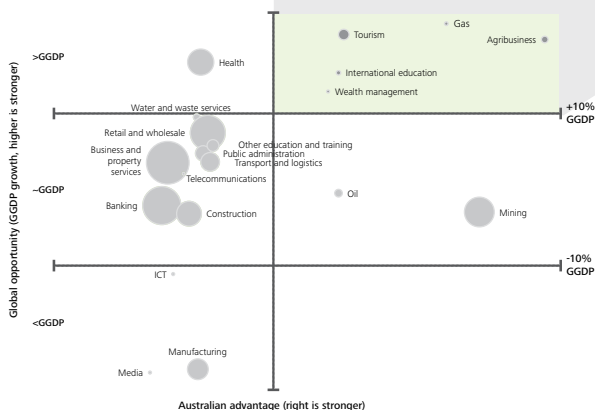
It also includes those that have more uncertain prospects but could have a game-changing impact on Australia's outlook, such as clean coal or capturing the wealth from our vast oceans.

Our methodology for arriving at this group is discussed in detail in the Appendix.

Figure 29: DG25 results matrix



Positioning for prosperity map



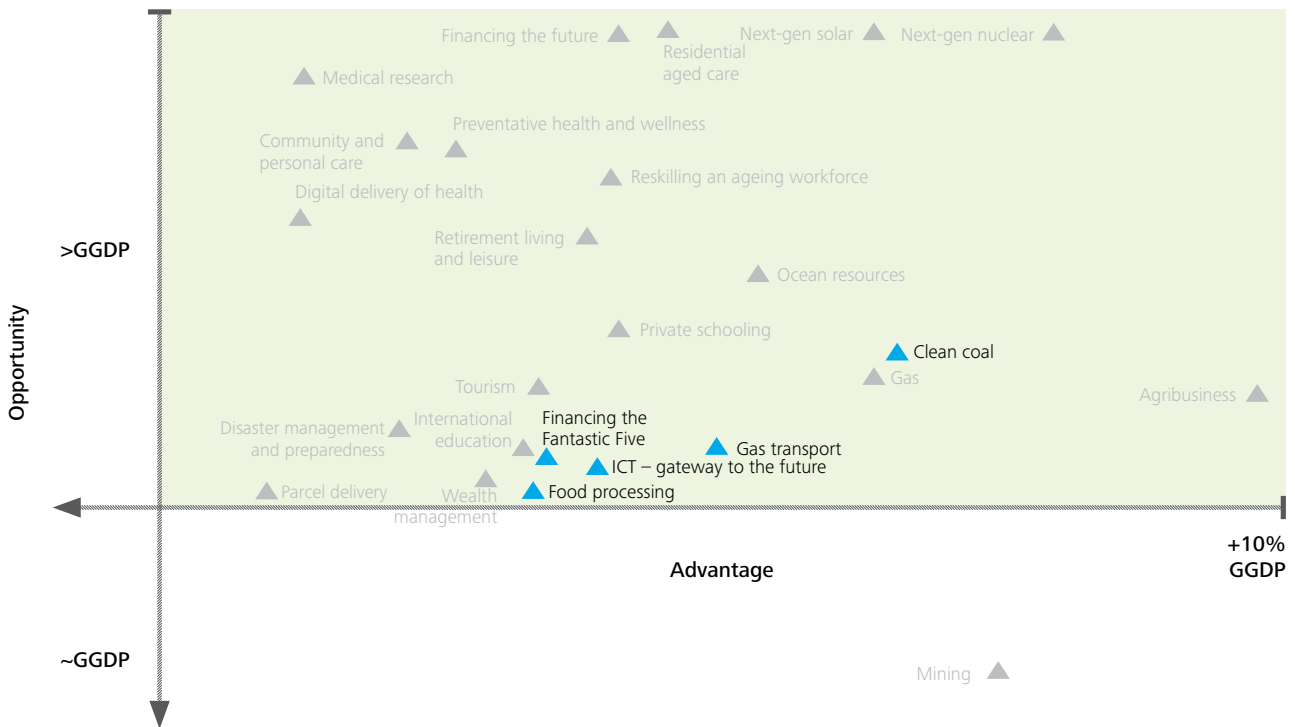
Source: Deloitte Access Economics

▲ Growth Pockets ▲ Fantastic Five ▲ Mining

Slipstream Stars

The following Growth Pockets are well positioned to tap the opportunities created by the expected strong growth of the Fantastic Five (agribusiness, gas, tourism, international education and wealth management), as well as mining.

Figure 30: DG25 results matrix



Source: Deloitte Access Economics

ICT – gateway to the future

Growth rate: 3.85%
Advantage: 8.9*

ICT is a relatively small part of the Australian economy, but many of the growth stars revealed in this report depend on it as a critical catalyst. This will become increasingly obvious as more and more devices connect to the Internet and the cloud, and spin off data that can be used to optimise everything from fridges to our national transport and power networks.

Think of the likes of agribusiness, where there is potential in items ranging from water-saving sensor systems to biotech developments, or new methods of protecting crops from disease. Or in mining, where ICT will affect everything from robotics and systems automation to more sophisticated engineering systems and safety technologies.

Equally, technology is disrupting traditional supply chains in education. It will allow us to move towards hybrid education and training models that require strong online delivery to complement physical experiences.

Similarly, wealth management for the mass market is on its way, but it has to be fuelled by ICT-enabled, lower-cost advice models. To date, there has been a lot of experimentation, but breakthroughs are not yet in sight. Will we be the ones to make the breakthroughs – with the potential to roll out to other markets – or will we just import the answers?

In other words, almost all breakout growth options for Australia in coming decades – the Fantastic Five and the others set out in this chapter – will require an active ICT role. Being the enabler of that growth will in turn carry rewards. In particular, the first-moving ICT makers and service providers able to deliver the solutions that other sectors need will reap the greatest direct commercial benefits.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Financing the Fantastic Five

Growth rate: 3.88%
Advantage: 8.3*

Just as ICT will be vital to Australia's growth options, the finance sector can slipstream the rapid growth expected in Australian trade in coming decades.

Just how big will that be? In 1970, total trade flows – exports plus imports as a share of Australia's economy – were a meagre 23% of national income. By 2010, that had risen to 40%, and the big investment in resource-related infrastructure in recent years suggests a surge is starting in the growth of trade flows into and out of Australia. Deloitte Access Economics estimates that Australia's trade ratio will rise to 45% by 2015, before reaching a resource export-assisted 60% by 2025.

That is, trade will grow rather faster in the future than it has in the past – offering supercharged opportunities for trade finance.

More broadly, global trade has grown faster than the world economy over a very long period, and that can be expected to continue into the future. Firstly, that is in part because the relative cost of trade continues to fall as technological changes allow more products to be traded at cost-effective prices. That is particularly important for Australia, where technology has helped to reduce the disadvantage of being located away from other major economies.

Second, most economic growth will be in developing Asia rather than in advanced economies. The continuing industrialisation and urbanisation of emerging Asian economies will help underpin an increase in the volume of goods and services traded. Given Australia's relative advantage in raw materials, strong growth in Asia also suggests a positive outlook for Australian trade volumes.

Third, although trade can be expected to grow, some rebalancing will be necessary. Current account imbalances have persisted around the world, and policies will need to start addressing that trend. For example, policies that aim to artificially undervalue exchange rates in some Asian countries will need to be gradually unwound. In turn, that will improve prospects for some components of Australian trade.

Finally, continued growth and structural change in Australia's economy will see a further shift toward services and away from goods-producing sectors such as manufacturing. That can be expected to support import growth over the forecast period.

These structural positives for trade flows should support many sectors of the economy, with the potential benefit for the Fantastic Five is particularly clear. Given the oldest role of the banking sector is in financing trade flows, there will be considerable opportunity to slipstream growth in trade by providing financial solutions to support that expansion.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Clean coal

Growth rate: 4.18%
Advantage: 12.2*

Australia has huge coal reserves, but the world's desire for clean air will throw a curveball into our ability to earn as much in the future from the likes of thermal coal as we have in recent years.

Some of the same factors that we believe will drive global gas demand in the years to come – in particular, Asia's quest for clean air – seem set to weigh on the demand for Australian coal to generate the world's electricity.

Just how important is that? The nation's official commodity forecaster, the Bureau of Resource and Energy Economics, says that Australia will export more than \$20 billion of thermal coal in 2017–18.²³

That's a big bucket of money. Luckily, there's a lot we can do about question marks over the longer-term potential for Australian thermal coal, ranging from tax and regulatory action by governments to the pursuit of operational excellence by individual miners, whose focus over the past decade was production rather than cost, such that the latter now needs to be sustainably addressed.

Yet there's a national treasure in play here.

The 250 million tonnes of thermal coal that Australia is on its way to exporting to earn that \$20 billion a year – double what it was ahead of the global financial crisis – plays a key role in powering the world's electricity generators, but its role is under threat by the rise of gas.

If we can drive down the cost of the technologies and processes involved in burning coal more cleanly, it would re-invigorate growth prospects for this traditional growth star.

There are major economic and technical challenges involved in clean coal, but the future payoff to Australia from re-invigorating prospects for our vast thermal coal reserves would be massive. That alone ensures coal will retain the potential to be a standout growth hotspot – and that Australian businesses should be closely monitoring developments in clean coal technologies and costs.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

²³ John Barber, Bureau of Resources and Energy Economics, 'Outlook for Australian Resources and Energy Commodities', presentation to the 2013 Australian National Conference on Resources and Energy.

Gas transport

Growth rate: 3.91%
Advantage: 10.2*

All of our natural gas hydrocarbon molecules (methane, propane, ethane and the like) need to be moved to the market from where they surface. That originating location might be offshore, as in Western Australia's industry, or it might be in Queensland's coal seam gas fields or shale fields in South Australia.

It takes a lot of infrastructure to safely move these commodities across the vast distances of Australia. That, in turn, requires specialised design for our uniquely harsh conditions, sophisticated engineering, robust manufacturing to build all the machinery, and delivery and installation services suitable for our delicate and highly regulated environment.

Anything that is highly repeated builds up know-how – the ability to accelerate execution and the capacity for innovation – and Australia's gas industry will feature a lot of repeatability. Queensland alone will need to drill at least 25,000 gas wells, each of which will require a well head, water separation, flow lines, meters and power. The wells tie into compression stations by the dozens to compress the gas as it makes its way to field gas plants that further purify the gas before it is pumped under high pressure to LNG plants on the coast. Thousands of kilometres of flow lines and pipelines will need to be installed.

That know-how will first be applied here at home as Australia capitalises on its own natural endowment in offshore gas fields and onshore coal seam gas. Provided environmental concerns are appropriately addressed, the next applications will be in our native shale resources. Eventually our capability will be highly sought after in those countries anxious to develop their resources with best-in-class capability. That has been the case in Canada and the U.S., where domestic service companies have grown into national champions and big international operations.

This rapidly growing natural gas industry has the potential to help transform a huge number of small service companies located in communities around the gas basins into larger multi-state players, with deep resident engineering skills for design work; project management services for execution; logistics know-how for large geographies; and offshore manufacturing capacities to build the right equipment at the right price.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Food processing

Growth rate: 3.77%
Advantage: 8.1*

There are other slipstream opportunities in the offing. An obvious example lies in the downstream processing of the 'dining boom' potential that we foresee in agribusiness.

Success is certainly achievable – New Zealand has already done it, showing standout success in global dairy markets and turning its might in agribusiness into downstream manufacturing dominance as well.

That is a reminder of the obvious potential that Australia can bring to bear here.

And there's even further potential. Asia values Australia's food safety standards highly, meaning that some markets will pay a premium to have their food processed and packaged here in Australia – think baby formula, for example.

Indeed, according to the Victorian Government, food processing already makes up 21% of the manufacturing sector in that state. That's delivered by 3,500 food processing businesses and almost 25,000 Victorians are employed in food production and processing roles.²⁴

Yet despite the obvious potential, to date Australia hasn't been able to match anything like the success achieved by our Kiwi cousins. Almost two decades on from setting out a vision for Australia to become a 'supermarket to Asia', our food and beverage sector has been consistently shrinking as a share of Australia's economy. (It was one-fortieth of Australia's economy in the early 1980s, but it has fallen back close to one-seventieth today, and it is continuing to shrink.)

And even after feeding ourselves, Australia can meet less than 1% of Asia's current food demand – let alone its future demand. That suggests that our opportunity isn't so much to be the supermarket to Asia as it is to be the delicatessen, offering high-value, high-margin products.

Some of our inability to grasp this opportunity comes down to the recent strength of the A\$. Yet even more of it comes down to the poor regulatory framework we've subjected food manufacturers to here in Australia.

For example, some regulatory approval processes are excessively slow, uncertain and costly (sometimes taking years to grant approval even for products with little apparent risk). Similarly, whereas food manufacturing in NZ is regulated by the Ministry of Primary Industries, here in Australia the matching regulatory oversight comes under the Department of Health – meaning that risk aversion is the order of the day and decision making is glacial.

The times are already changing, however. The A\$ has come off its peak and is projected to move lower still over time, while Australian agribusiness has excellent longer-term potential.

If we can just overcome our poor regulatory practices – as we surely should seek to do – then we have the potential to parlay these upstream strengths into a vibrant downstream food processing industry.

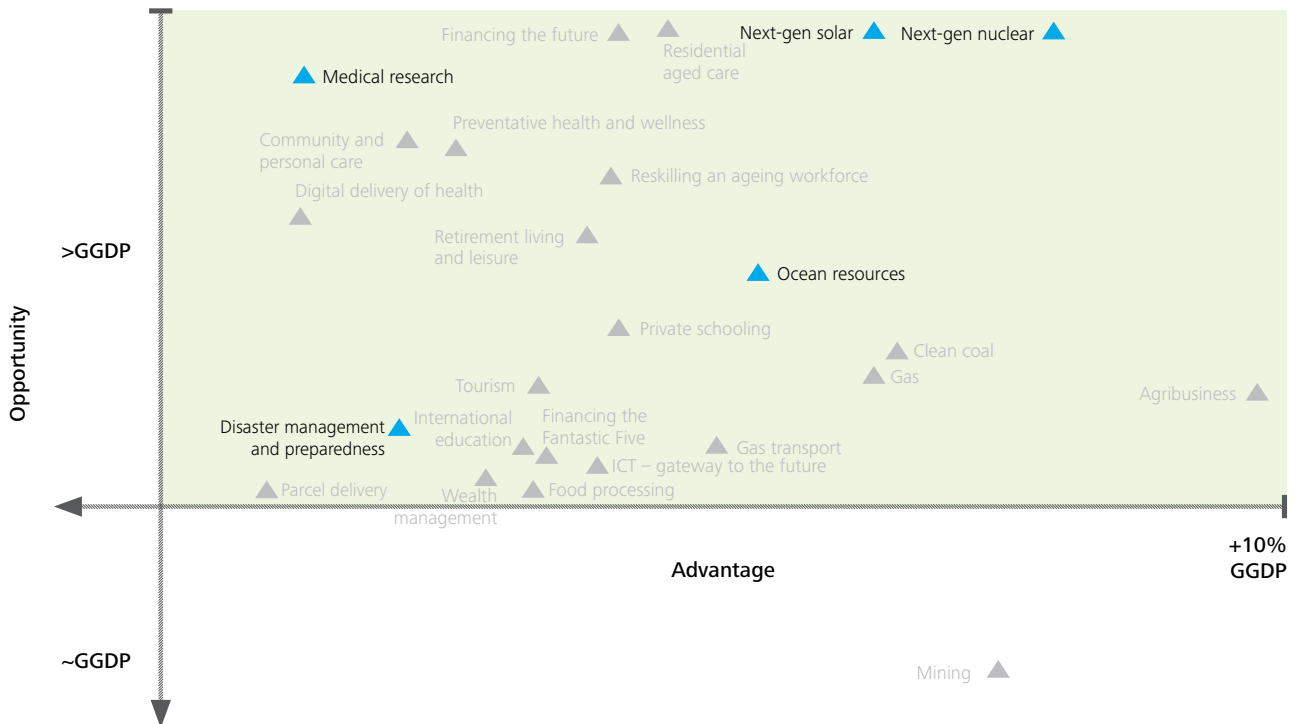
* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

²⁴ 'Food to Asia Action Plan', Victorian Government, 2014.

Global Slivers

These smaller – and in some cases highly speculative – niches have the potential to surge by selling Australian-made products, services or expertise into world markets.

Figure 31: DG25 results matrix



Source: Deloitte Access Economics

Disaster management and preparedness

Growth rate: 3.96%
Advantage: 6.7*

Australians are actively putting themselves in harm's way by moving to warmer and lower-lying parts of our continent. We cannot ignore the fact that our population (and our built environment) will be increasingly concentrated in areas of greater risk. We also know that, generally speaking, prevention costs an order of magnitude less than repair.

That alone is projected to lead to the economic costs of natural disasters doubling by mid-century. Accordingly, responding better to disasters – and preventing them – will be vital to Australia and Australians in the decades to come.

This will include raising the walls of dams to cut the chance of damaging floods, clearing scrub near homes and putting power lines underground. According to the Australian Business Roundtable for Disaster Resilience and Safer Communities, the right steps could save the Australian Government up to \$12 billion a year in natural disaster relief and recovery costs by 2050.²⁵ So these initiatives don't just make good sense, they are also business opportunities.

Moreover, although most of the markets will be domestic, Australia is also well positioned to sell skills and services into global markets. In part, that is because the world is seeing similar trends to Australia, with increased population in low-lying warm climates – a classic risk combination for natural disasters.

Australian know-how can lead the world in these developing markets, with a focus on prevention (preparedness, including identifying risks and acting on them) and cure (management, including dealing with the aftermath of disasters). Indeed, the United Nations has described Australia as a world leader in disaster risk reduction and in 2012 it made the Australian Capital Territory a role model city in its global Making Cities Resilient campaign.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

²⁵ 'Building our nation's resilience to natural disasters', Australian Business Roundtable for Disaster Resilience and Safer Communities, 2013.

Next-gen solar

Growth rate: 5.11%
Advantage: 11.9*

The world is hungry for new power sources, and demand for stationary electricity continues to rise. The challenge is to generate that power without the carbon footprint associated with coal. Australia has at least two opportunity areas arising from the growth of next-generation power sources: solar and nuclear.

Australia has sun. In fact, we have the most sunny days per year of any developed nation. If solar is going to work anywhere, it will work here.

The cost of solar energy stopped declining for quite some time, partly because polysilicon, a by-product of the semiconductor industry, became more expensive. But costs have started falling again, while new technologies such as quantum solar have the potential to multiply the efficiencies associated with photovoltaic cells.

It now looks as if solar has the potential to reach grid parity – at which it is price-competitive with coal- or gas-fired power – by the end of this decade, even without any carbon price. Advances in generation (for example, quantum solar technologies that use a bigger share of the sun’s spectrum) and storage (such as salt-based storage facilities that turn solar energy into base-load power) are likely to kick in over the next five years or so.

While it seems unlikely Australia will be a leading innovator in all the core technologies in this area, we can deploy others’ innovations to capitalise on solar’s growth as a clean and green energy source for our industries and citizens. The road is also wide open for us to pioneer new models of distributed generation – which is what solar represents, as opposed to today’s centralised approaches – and the systems that will be required to regulate them.

With our sun and vast distances, we may also be well placed to pioneer the new businesses that will in turn accompany this growth in solar-based distributed energy systems.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Future waves Global Slivers

Next-gen nuclear

Growth rate: 5.11%
Advantage: 13.9*

Even though the world is hungry for new power sources, many proposals to make greater use of nuclear power ultimately founder on the issue of how to deal with the resultant waste. That's eminently understandable. Yet it is also why the UN's International Atomic Energy Agency (IAEA) has noted that it makes sense to develop multinational repositories for nuclear waste.

Possible sites require two key characteristics: geological and political stability. Might Australia fit the bill?

Much of Australia is geologically stable. As well as its low rainfall and very flat landscape (which limit erosion), extremely slow groundwater velocity, and low past and current seismic activity, Australia also has the political and social stability lacking in some alternative sites (such as southern Africa, western China and Argentina).

To be clear, this potential is easily demonised via banner headlines, making the idea unlikely to proceed. Yet the world is in search of a global solution to nuclear waste management and Australia would be considered a strong and viable option by the IAEA and the global nuclear industry.

Moreover, new technologies may change the risk-to-return trade-off. For example, the Bill Gates-backed TerraPower is making rapid progress in exploring ways to use nuclear waste as a fuel for electricity generation. Such breakthroughs might allow nuclear waste to become a valuable input for an industry that actually remediates nuclear waste as it generates power.

Technologies being developed by the Australian Nuclear Science and Technology Organisation (ANSTO) may also increase the stability of stored nuclear waste. These trends are worth watching as they may open up new options for Australia. By some estimates, nuclear waste could not only be used up over time, but could generate enough electricity to power the planet for 300 years.

Clearly, the people of Australia have choices to make. We would simply urge a mature debate that weighs safety, cost, environmental impact, community sentiment and other dimensions of the issue, while examining it through the lens of Australian advantage and global opportunity.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Medical research

Growth rate: 4.99%
Advantage: 5.6*

We are global leaders in a number of medical fields, including neuroscience and the treatment of cancer, cardiac conditions and diabetes. We are also succeeding in creating clusters that bring together world-class research, education and delivery in specialised facilities such as those focused on cancer research (especially skin cancer).

In fact, Australia is already a recognised leader in medical research and biotech, producing an outsized share of the world's medical research publications. So it is no surprise that Australia has been home to seven Nobel laureates in medicine.

In neuroscience, a massive growth area, our research capability is ranked in the top four globally. That is a vital lead, because 'brain health' is set to be the dominant issue of the coming century – disorders such as dementia, Parkinson's, epilepsy, stroke and a range of mental health conditions are chronic and disabling.

We have developed this capability organically over at least two decades, especially in Victoria, which is home to approximately 40,000 full time-equivalent bio-research professionals working with an ecosystem of research institutes, hospitals, universities and other facilities. Australia is also well positioned to export its capabilities through partnerships, education and mentoring with peers in Asia, where ageing and neurological disorders are recognised as a significant and fast-growing threat to public health.

Among the developed nations of the world, ageing also means that 'people power' will be the key constraint on future growth. That will make this research front and centre as a business and public policy concern. So there's great potential, but the key here lies in taking our proven track record in research and commercialising it.

The good news is that some success is already evident. Australia's medicines industry is already our most valuable high-tech export industry, chalking up \$4 billion in exports per year. By way of comparison, that's three to four times our exports of electronics, office machinery and computers. It also ranks ahead of our exports of cars and wine.

However, the medicines industry also highlights our obstacles. The vision among producers is to double Australia's medicines manufacturing output in the next decade. To achieve this, reform is needed to provide the right regulatory environment for this advanced, export-oriented industry, especially in the commercialisation and technology transfer arenas.

We must also recognise that lead times are long in medical research, and ensure we maintain and build our expertise so we're ready and relevant when opportunities do arise. One thing we've learned over time is that these opportunities are often unpredictable and non-linear.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Future waves Global Slivers

Ocean resources

Growth rate: 4.41%
Advantage: 10.6*

We're bigger than we think. We have an Exclusive Economic Zone (EEZ) larger than the landmass of Australia, meaning we have rights over the oceans around our nation, not to mention a responsibility to manage them sustainably.

Moreover, the world has recognised we have rights stretching even beyond our EEZ, covering an additional area the size of Western Australia. All up, this gives us the third-largest ocean environment in the world.

That is an asset with huge potential. Australia's natural wealth spans dimensions that most people rarely consider. That is already being exploited in our energy production from gas and oil, and increasingly from water and wind.

Beyond these, there is rising scope to farm the ocean. The potential here is considerable. After all, oceans are remarkable environments with a number of characteristics that make them very attractive for a host of industries. In addition, Australia is more experienced than most in knowing what infrastructure is needed for large billion-dollar, ocean-based and ocean-linked industries such as pond construction and ports.

That's why Australia needs to be at the forefront of the technology related to capturing wealth from our oceans – it can mean more to us than to others. There is also the notion of *usus capion* to keep in the back of our minds. This is the legally vague idea of 'use it or lose it', especially when it comes to ocean territory located more than 200 nautical miles offshore.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Local Heroes

The largest megatrend affecting Australia in coming decades will be an ageing population. This will generate a host of almost recession-proof domestic Growth Pockets, especially in the health arena.

Figure 32: DG25 results matrix



Source: Deloitte Access Economics

Future waves Local Heroes

Community and personal care

Growth rate: 4.79%
Advantage: 6.8*

Australians are living busier lives, meaning the future for time-saving services is particularly bright. This includes a range of businesses, from those focused on helping out around the home (like Jim's Mowing, Dial-An-Angel and Hire a Hubby) all the way through to dog walkers and personal shoppers.

Adding to those opportunities will be growing demand from older Australians, who will want convenient access to a range of health and other services – both within retirement communities, and for meeting specialised needs within the broader community (such as culturally appropriate care for ethnically diverse Australians).

The private provision of personal care in the home is an area that will grow rapidly, as pressures grow on public health care and as relatively affluent retirees look to make life more comfortable by making arrangements to stay in their own homes.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Retirement living and leisure

Growth rate: 4.52%

Advantage: 8.7*

Compulsory superannuation is only two decades old, so the superannuation system is decades shy of maturity. Because of that we tend to assume that the retirees of the next two decades won't be particularly well-heeled.

Yet that's just plain wrong. Although the superannuation assets of retirees haven't benefited from a lifetime of contributions, the baby boomers did buy housing and shares – both of which have appreciated handsomely. Similarly, policy changes in the past decade have consistently favoured older Australians.

The upshot is that although there will be a wide range of experiences, those who retire in the next two decades will, on average, have funds available on a scale never seen before in Australia – or indeed elsewhere. At the same time, the coming wave of retirements among baby boomers will be large, and will come with more ambitious expectations of their retirement years than previous generations.

That will revolutionise a number of markets. One of the obvious ones is retirement living, where increasing luxury (such as magnesium spas, lawn-bowling greens and onsite movie theatres) will be possible due to the growing scale of future retirement facilities. Moreover, the market growth is almost guaranteed – build it and they will come. Seventy-five will be the new 55. There will be retirees interested in a sea change or a tree change. Others will want to live in the inner city. Others still may want to timeshare: Sydney for six months, then New York or Noosa for the next six months.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Reskilling an ageing workforce

Growth rate: 4.69%
Advantage: 9.0*

Gen Y understands they'll have more than one career. But older workers will need to do the same as the nature of work changes, both in terms of the opportunities available, and the work that is of interest to them as they get older.

We are living longer, which means we increasingly need to work longer too. That will be a tougher ask for some workers than for others. For example, some office workers already work well into their 60s and 70s, but that is less true of the likes of builders, soldiers and shearers.

Growing numbers of older Australians are extending their careers by choosing a different role or a new industry. This means there is a national need to encourage and enable education and training providers to develop the new skills that will make the best use of these experienced and productive workers.

In addition, Federal Government policy aims to substantially lift the share of the population with tertiary qualifications. That will directly add to opportunities for the education sector, and also boost demand from older workers – who will have to compete in the workplace with increasingly well-qualified younger workers – for training in new skills.

At the same time, workers will need to stay abreast of increasingly rapid technological change, as digital technologies change not only the way we live, but also the way we work. This training will need to aim at keeping workers up to date with cutting-edge technologies and new approaches to problem solving.

There are of course some obstacles to overcome for this opportunity to really flower – for the benefit of educational providers and older workers alike. We need to overcome the entrenched idea that education is primarily for people aged under 25, and tweak policies to ensure support, such as student loans, is also readily available to older people.

Success will also require widespread cultural change among businesses, such as embracing flexible work practices, remapping career pathways and helping young managers lead older workers.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Financing the future

Growth rate: 5.11%
Advantage: 9.1*

Australia's financial sector will see many opportunities emerge from global markets amid the rise of ascendant Asia. Yet it will also see major opportunities due to home-grown demand for innovative products that assist with the challenges of caring for an ageing population with a huge asset base. Entrants from outside the financial sector may be able to grasp these opportunities too; these days, Australians are much more likely to go to a supermarket, for instance, than to a bank.

While the traditional business model of banks – paying a lower interest rate on deposits than they charge on loans – has been relatively unchanged for centuries, the opportunities presented by an ageing cohort of wealthy baby boomers looks set to shake up the industry.

Most notably, banks, super funds and new financial services providers will look to establish and expand new markets to service the growing demand for new financial products from wealthier retirees. Tomorrow's retirees will be looking for choice, particularly when it comes to how their assets are invested. That will mean providing more flexible retirement income streams and increasing levels of advice for self-managed super funds.

As noted earlier, many Australians will retire with plenty of wealth, but much of it will be tied up in the family home or family assets. Indeed, the ABS recently estimated that Australia's 9.3 million homes are now worth some \$5 trillion.²⁶ That raises a number of opportunities for new equity products, as well as personal wealth structuring and estate planning.

At the same time, rising life expectancies mean older Australians risk outliving their savings. As the savings pool grows, there will be a role for products that protect retirees against this longevity risk. That will create opportunities for products such as deferred lifetime annuities and pooled retirement income streams, as well as tax-effective products for inter-generational transfers.

Finally, as governments struggle to fund rising health care costs, a role will emerge for private funding through provisioning vehicles and innovative financial products such as dedicated health savings accounts and social impact bonds. These will extend the success of Australia's superannuation system to cover a broader range of future insurable costs.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

²⁶ Australian Bureau of Statistics, Cat no. 6416.0, December 2013 quarter.

Residential aged care

Growth rate: 5.12%
Advantage: 9.6*

The big boom in aged care over the past decade was in relation to care delivered at home, moderating growth in nursing homes. Yet the latter will see standout growth in coming decades. Aged care needs are greatest among those who are 80 and beyond. In 2013, this group accounted for one in every 26 Australians. By 2030, one in every 18 of us will be over 80.

However, this will be a slow burn. The peak years for baby boomers to enter nursing homes won't start until the late 2020s, and the youngest of them will follow throughout the 2030s.

Just as the baby boomers changed the nature of Australia's schools in the 1950s and 60s, and then our workforce in the decades that followed, they will create a wave of change through the aged care sector. Nursing homes will undergo a transformation as wealthier boomers (and their children) look to maintain expectations. This might include private room ensuite facilities, secure gardens, personally tailored services and – provided we can field the skilled professionals needed to meet the demands of these new retirees – highly competent care staff.

Australia's emerging dementia epidemic will play a huge role in the opportunities on offer. Deloitte Access Economics estimates that the number of Australians living with dementia will quadruple by 2050. As a result, specialist dementia care is already growing rapidly from its modest beginnings – and not only will more Australians require care, they will increasingly have the money to pay for better quality care.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Preventative health and wellness

Growth rate: 4.77%
Advantage: 7.3*

Over the next two decades, no market is likely to see better growth in Australia than preventative health and wellness services. We're living longer but we also want to keep living better, and that tension will generate billions of dollars in opportunities.

As the saying goes, prevention is better than cure. Given what we now know about the risk factors that lead to health problems like heart attacks and strokes, prevention is also where many of the opportunities lie. Broadly speaking, preventative health care is aimed at, on the one hand, addressing risk factors such as smoking, weight and cholesterol and, on the other hand, intervening early and effectively to help Australians with acute and chronic conditions avoid complications. An example is helping those with osteoporosis to prevent fractures.

Businesses that help Australians combat the 'lifestyle factors' of obesity and inactivity are part of the answer here. And that doesn't mean just the physical activity and weight loss industries – both the time-poor and the elderly will increasingly rely on the private sector to supply nutritious meals and appropriate exercise and fitness regimes.

Businesses that provide complementary medicines and treatments aimed at avoiding and relieving the symptoms of disease also fit within the sphere of preventative health and helping older people live active, healthy lives. Think vitamins and supplements, naturopathy, acupuncture, remedial massage, yoga, tai chi and pilates.

There are also major opportunities here for more traditional health providers. Biotechnology, pharmaceutical and medical device companies are working hard to find new and better treatments for chronic conditions such as arthritis and Alzheimer's. Pathology and imaging centres will continue to grow their diagnostic services. Allied health professionals from a range of fields – such as nursing, optometry, dentistry, pharmacy, psychology, physiotherapy and occupational therapy – will find themselves in high demand.

The need for general practitioners, specialist medical services, hospital inpatient and outpatient treatment, day surgery, and other acute, sub-acute and primary care services will also rise quickly. Medi-hotels, hospital-in-the-home services, and innovative e-health and telehealth offerings will proliferate in the pursuit of more cost-effective ways to deliver healthy years of life.

While Australia's high wages are unlikely to make us a huge magnet for medical tourism in our region, there will also be pockets of opportunities for health exports in niches such as fertility treatment, bariatric surgery, dermatology, cosmetic surgery and cardiac therapy.

Businesses that can focus on the rapidly growing health sub-markets across the nation, and particularly among older Australians, will be well placed.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Digital delivery of health

Growth rate: 4.58%
Advantage: 5.6*

Like many things, the delivery of health services is going digital and Australia – with its need to serve a small population over vast distances, track record in manufacturing medical devices, willingness to try new health care delivery models and sophisticated telecommunications infrastructure – is well placed to pioneer next-generation products and solutions.

Our geography has made us something of an expert in delivering things to our highly dispersed population. In particular, Australia has developed a competitive advantage in health transport services (think Royal Flying Doctor Service), tele-triaging (call centres that assess what assistance is necessary and how to access it), and a range of other telehealth services including:

- Tele-consultations – such as psychiatry and other specialities
- Tele-radiology – imaging that is acquired locally but processed in cities
- Remote patient monitoring – using set-top boxes with other devices to provide biometric measurements and monitoring of conditions such as diabetes, cardiovascular disease and chronic obstructive pulmonary disease.

Australia has also developed expertise in identifying and implementing alternative models of care that reduce costs and improve quality of life for people in remote regions. A good example is providing oral (rather than intravenous) cancer therapies that allow patients to stay in their home towns or on remote properties during treatment.

In terms of devices, many have heard of the products produced by the likes of Australian bionic ear maker Cochlear and sleep device leader ResMed. But they aren't our only success stories. There is a vibrant and viable medical devices industry beyond those two well-established success stories, dominated by organisations that are still in their start-up phase and employing fewer than 100 people.

The drive to digitally enable medical devices so that patient data is regularly updated in the cloud paves the way for a massive revolution in the remote provision of health services. The growth of these new business models highlights that Australia has a great opportunity to excel in the research and development, advanced design, engineering and manufacturing of web-enabled medical devices.

These opportunities should only be enhanced by the further expansion of our telecommunications capacity with the NBN and ever-growing mobile networks.

While we still have plenty to perfect at home – for instance, life expectancy in regional and remote areas of Australia is still four years lower than in metropolitan Australia, and the gap for Indigenous Australians is even greater – there will also be an opportunity to export our expertise, technologies and treatment models to the island archipelagos of the South Pacific and the Southeast Asian region as well as western China, South Asia and much of Africa.

Like Australia, many countries in those regions suffer from poor economies of scale; the complexities of aligning health needs with skilled workforces that prefer to live in cities; and a broad spectrum of tropical illnesses, injuries and conditions that can be complex to manage without local or specialised facilities.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Private schooling

Growth rate: 4.25%

Advantage: 9.1*

Health and aged care services won't be the only beneficiaries of demographic destiny. The last handful of years saw a sharp rise in births in Australia. As recently as 2004, fewer than 250,000 babies were born annually, but this has risen to around 310,000 in the latest statistics.

So if you wondered why you'd stopped hearing state politicians talking about the need for inner-city school closures, it's because demographic drivers are now pointing upwards. This increase in ankle-biters has reached the early years of primary school but we already know that the number of Australian students going through high school in the 2020s will rise by around a quarter. This increase will then spill into tertiary education from late in the next decade.

That means there's almost guaranteed growth ahead for schools. This is particularly positive for the private sector, given the underlying trend towards private (non-government) schooling in Australia. Non-government schools educated one in every four students three decades ago; the ratio today is more than one in three.

Parents are switching towards more costly schooling options, believing this will enhance their children's academic results and longer-term prospects as well as delivering other desired social outcomes.

The collision of these two trends – swelling student numbers and a willingness to pay more to achieve better results – points to great growth ahead for this sector.

Moreover, as is often the case when markets grow fast, options proliferate as previously uneconomic niches develop. Accordingly the coming decades may not only see strong growth, but also much wider choice within education.

These factors make private schooling an Australian growth engine that is set to come of age relatively soon.

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

Future waves Local Heroes

Parcel delivery

Growth rate: 3.77%
Advantage: 5.2*

Consider the ingredients in the mix: consumers want the lowest cost, and that will often steer them towards Internet purchasing rather than bricks-and-mortar retailers. At the same time, the convenience of having products delivered will be increasingly valued as the scarcest commodity of all – free time – becomes ever more precious in years to come.

Even better, we will have new options around the speed, safety and method of delivery, with niches opening up to make parcel delivery a possibility for a wider range of products. Moreover, new technologies will revolutionise existing options such as grocery purchasing and delivery.

For example, driverless vans will come to your home, and wheeled robots will deliver to your door. In fact, Amazon is already trialling delivery by drone.

This growth opportunity is already evident. It has greatly helped the wholesale sector outstrip the retail sector in size, and it is why parcel delivery has been the fastest growing segment in Australia Post's sales. In the 2012–13 financial year, Australia Post delivered 9.3% more parcels domestically, delivering 8.4% revenue growth and \$355 million of the group's profit.²⁷

* Our Advantage scores for the 19 Growth Pockets in this section range from 5.2 to 13.9, as shown in Figure 49 and discussed in the Appendix.

²⁷ Australia Post 2013 Annual Report.

²⁸ 'How do you value an icon? The Sydney Opera House: economic, cultural and digital value', Deloitte, 2013.

And the rest...

We considered a larger number of candidates for this list of Growth Pockets than are shown here. Some had great potential but didn't quite make the cut.

An honourable mention should go to waste management. The economics behind waste management are set to shift. In particular, we expect to see significant opportunities in recycling as commodities rise in price and increased living densities here and in places like China make it more attractive to re-use materials. Waste may also be sought after for the production of biofuels and there will be big business in the developing world in remediating waste water for domestic use.

Building homes and infrastructure better suited to an ageing population is another big area that almost made the list. The outlook is bright for some segments of construction because Australians are on the move and will want different types of housing as their lifestyles and needs change.

The arts and recreation arena is also likely to contribute to Australia's growth in direct and indirect ways. In 2013, we analysed the value of the Sydney Opera House, for instance, and found it could not only be expected to grow in cultural and economic value here at home but that it would deliver new export income through ventures such as broadcasting performances to paying audiences globally. Looked at over 40 years, the Opera House is estimated to have a social asset value of \$4.6 billion.²⁸

And while there's an obvious link between having great arts and recreational attractions and securing tourist dollars, it's also worth recognising that a strong cultural sector will underpin other parts of our economy by fostering creativity and enhancing our quality of life in a way that retains talent in Australia – or attracts top people from overseas.

But the biggest missing name from our list of 19 potential Growth Pockets will be well known to most Australians interested in this nation's future: infrastructure.

Where's infrastructure?

Why haven't we listed infrastructure? After all, some parts of the nation's infrastructure do indeed have the potential to grow rapidly. Indeed, infrastructure is already part of our gas transport Growth Pocket and, as just noted, ageing-related infrastructure almost made the cut.

More broadly, rapidly growing trade flows, ageing urban infrastructure, and megatrends such as technology (think the NBN) and demographics (think health-related construction) point to considerable potential.

Yet the growth potential in infrastructure is a two-part story. Although there is great potential across a number of pockets, in many cases that potential will cut growth, rather than add to it.

That is because Australia prices and regulates its infrastructure badly, meaning we use it badly.

That is true, for example, of our power, roads power, roads and water networks. If we introduced higher prices for peak use of electricity, then the current crush on peak load capacity could be eased, allowing more efficient use of infrastructure rather than having to spend more on building additional infrastructure. The same goes for roads, where congestion charging in our big cities and changing the way we charge for trucks to use our highways could reduce the cost of infrastructure. And more efficient pricing of water across categories of users could ensure that resource gets used in a way that maximises returns to Australia's industries and families.

The global 'collaborative consumption' movement, predicted by innovative thinkers like Sydney-based Rachel Botsman, takes that thought further still, noting that much private 'infrastructure' (such as the spare bedrooms that spawned Airbnb or the now unwanted 'stuff' that provided the foundation for eBay) is underused.

Similarly, Australia regulates our infrastructure badly, and lets poor labour practices place hidden 'taxes' on our infrastructure. That costs the nation in terms of what it gets out of key assets. Good examples here include the nation's wharves and coastal shipping.

Or, in other words, success in parts of infrastructure will slow its growth rather than speed it up. That's why infrastructure rates as vital for Australia's future, but doesn't make the grade as a Growth Pocket here.

The big picture

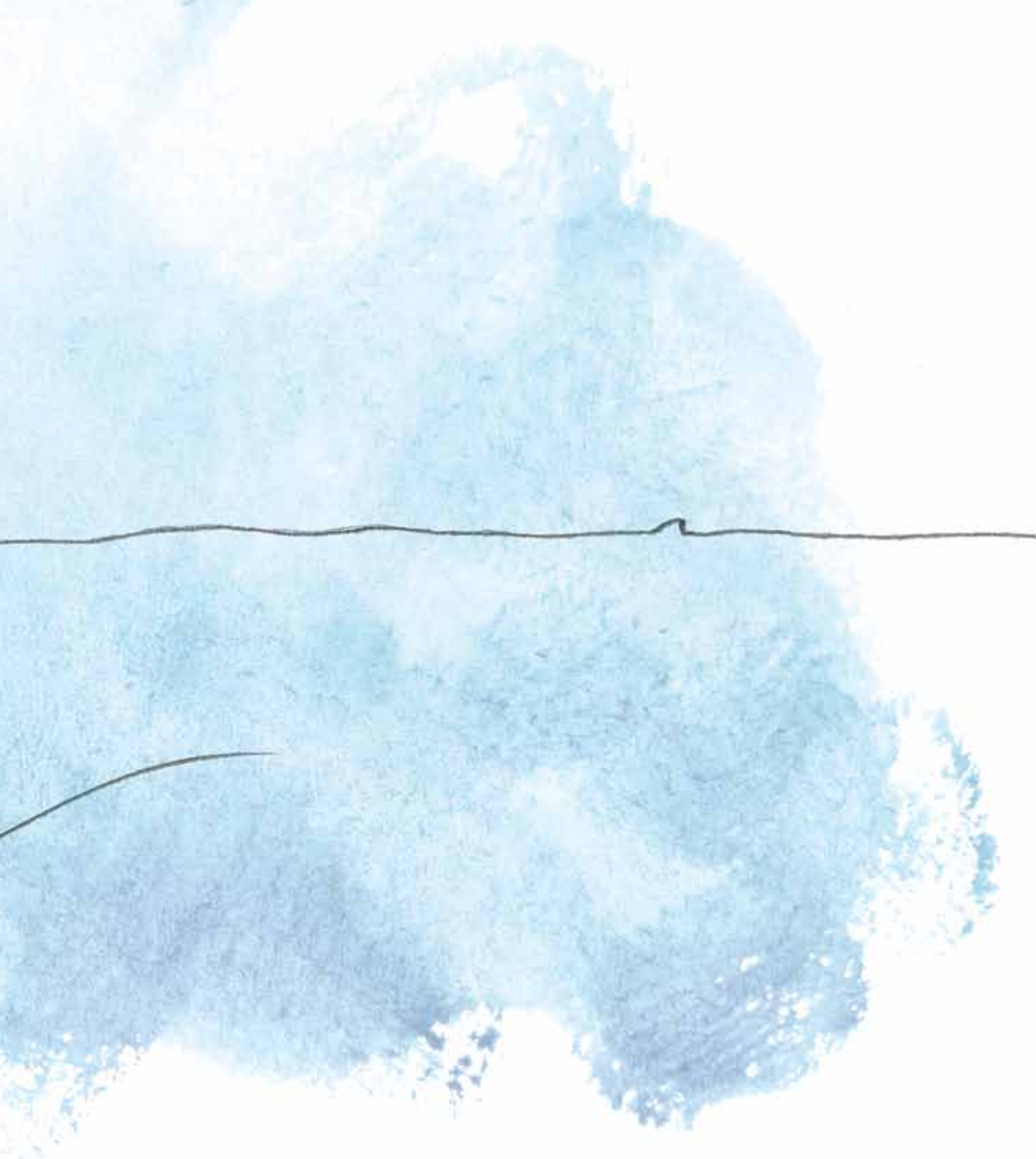
Finally, it is worth noting the obvious: Australia Pty Ltd already generates \$1.5 trillion in revenue every year, and many other opportunities will open up in the decades to come. Although we can't precisely predict the stars of the future – and we should expect the list to continually evolve and always be checking the perimeter – the basic DNA of many of those success stories is already obvious.

In identifying mining and the Fantastic Five, we had a global focus, looking for the intersection of 'what the world will want' and 'what Australia can be good at'. The broader test spanning the global and domestic environment is essentially the same: success across all sectors will lie at the intersection of 'what markets will want' whether abroad or here at home, combined with 'what we can be good at'.

In the next part of this report, we discuss how individual businesses and governments can best position themselves and their citizens to prosper in what we hope we have demonstrated has the potential to be a bright future.

Part III





Preparing for action

Creating opportunities for growth

This report analyses where global opportunities and Australia's advantages will coincide to create growth opportunities for our economy.

But recognising that Australia's prospects are as bright as they were a decade ago is not in itself enough. How can our country's businesses and governments apply these insights to their specific situations? What must we all do to advance Australia's cause? How can we take a longer-term view and what does that mean in practice?

The answers lie in understanding where companies are positioned today, and identifying the best ways to move towards areas of higher growth and greater advantage.

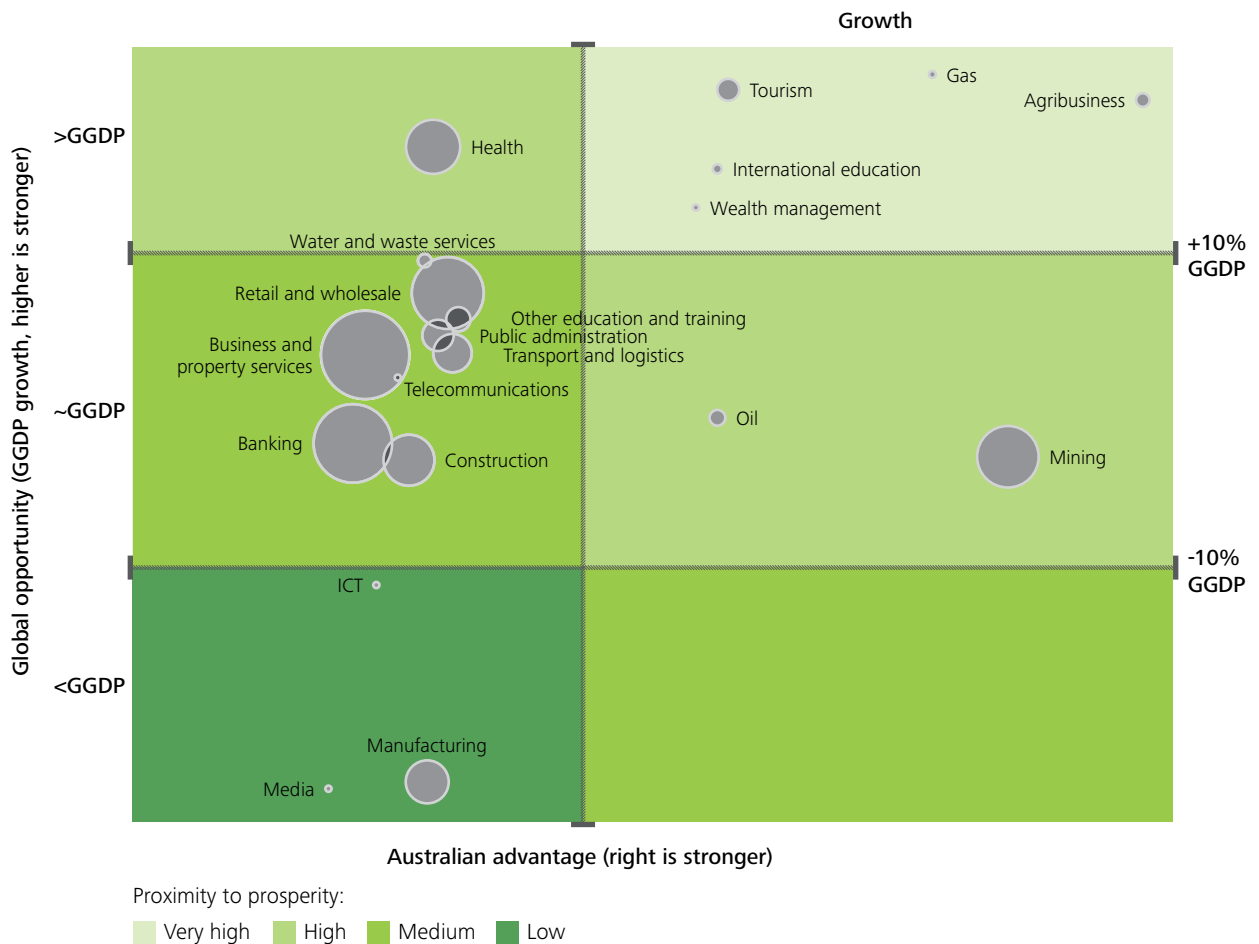
Government can play a role here too. Yet it is worth underscoring that although government policies can help, success or failure lies more in the aggregate actions of the business world.

What is your proximity to prosperity?

Every business needs to be a part of this conversation. In the same way that we have considered how a range of Australian industry sectors are positioned to grow over the next two decades, individual companies can review how they are positioned to succeed in the future. This means asking 'What is our proximity to prosperity today?' and 'Are we on track to move closer to prosperity?'

Our earlier map of industry sectors can be viewed this way.

Figure 33: Mapping proximity to prosperity for Australian industry sectors



Sectors with an outstanding potential growth story, such as gas and agribusiness, enjoy a 'very high' proximity to prosperity. This comes from being positioned in markets that are expected to show strong global growth over the next 20 years, and from doing business in areas where Australia enjoys a disproportionate advantage over our competitors.

Mining, oil and health all have a 'high' proximity to prosperity, either because these sectors are set to grow quickly, or because Australia finds itself in a position of strength. At the other end of the scale, sectors like manufacturing will need to make their way unassisted by exceptional global growth or inherent Australian advantages.

Yet these are generalisations. Each business will occupy different niches, and will sometimes operate across more than one sector. The challenge for leaders is to determine where their company sits on the map and – most importantly – how to move closer to prosperity as Australia's sector growth drivers change gear.

Moving to a new position

The more Australian enterprises that can increase their proximity to prosperity as we move further into the current century, the better for all of us. For any particular organisation, the goal will be either to move up on the proximity to prosperity map (Figure 33) towards higher-growth markets, or to move to the right to enhance their unique advantages in tapping into those markets.

There are five primary levers that companies and governments can use to achieve this. These start with identifying the organisation's current status, then reviewing its capabilities in terms of competencies and structural advantages. The levers also focus on how organisations allocate resources and change their portfolios to increase their exposure to growth opportunities. These steps are effectively ways of hitting 'forward' and 'fast-forward' to shape the future for our companies and Australia's economy.

The challenge for leaders is to determine where their company sits on the map and how to move closer to prosperity.

Portfolio mix

Deliberately raise portfolio growth rate through:

- Mergers and acquisitions in high-growth sectors
- Alliances and joint ventures
- Active divestments in slower-growth sectors.

Resource allocation

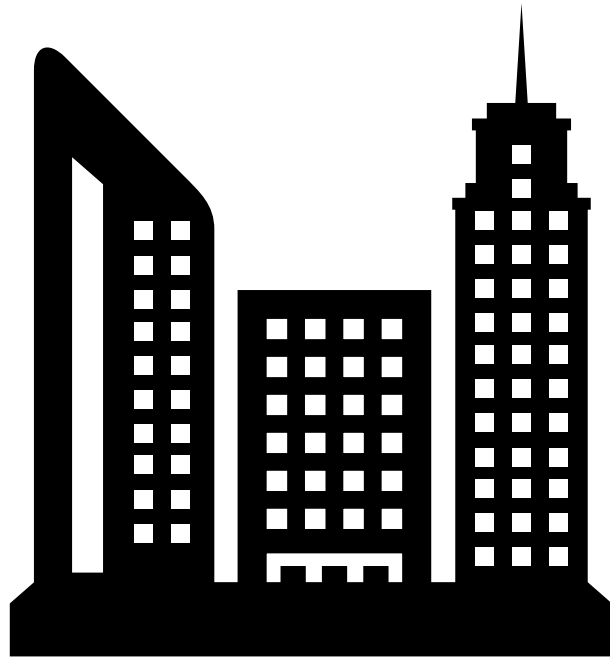
Increase exposure to higher-growth markets by organically shifting internal resources:

- Focusing investment dollars into areas with higher-growth exposure
- Deploying top talent into key growth business units
- Investing in transformational innovation.

Opportunity radar

Drive superior sensing of Growth Pockets within sectors, both internally and externally:

- Technological discontinuities
- Regulatory changes
- Global demographic shifts
- A broad array of strategic risks
- Consumer trends.



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Competency advantage

Gain significant operating advantages through superior talent and/or business practices:

- Better recruitment, motivation and retention of high-quality talent
- Incremental innovation within business
- Institutionalisation of superior practices
- Ability to tap into third parties.

Structural advantage

Secure positional advantage that is 'hardwired' and exclusive or difficult to imitate:

- Superior location or context such as climate
- Physical assets or exclusive access rights to physical assets
- Intangible assets such as intellectual property
- Special networks and privileged relationships.

Prosperity levers for business

Understanding a company's position

Opportunity radar

A ship at sea uses radar to know where it is headed. Likewise, companies need to sense where growth opportunities and risks may lie in their operations, in their immediate marketplace and in related markets they may never have considered.

Given that markets are very dynamic and many growth opportunities granular – a number of small grains, rather than large, neat units – this is no trivial exercise. But it is a vital one; after all, if you can't spot the opportunities (or worse, don't even try to), it is hard to chart a course for success.

A useful action is to look for discontinuities that may have opened up new opportunities, such as rapid technological, regulatory and demographic shifts. Companies can also map consumer trends and look at how those changes are affecting their market position.

At the same time, businesses should scan the horizon for any strategic or operating risks that could push them further from prosperity.

The conventional tools for creating this awareness and visibility include everything from company suggestion boxes to management strategy meetings and the use of third-party consultants and forecasters.

There are also new options. Companies can tap social media to better understand consumer sentiment and trends. They can also create or use crowdsourcing to ask questions of large and potentially unknown groups and communities, greatly expanding their access to information and insights (see box).

A new model of marketing intelligence

The term 'crowdsourcing' has gained currency in recent years, but how do companies use the concept to enhance decision making? The answer is being provided by next-generation management consultancies and services such as 10EQS. This U.S.-based start-up, which recently became part of the Deloitte Australia delivery ecosystem, has launched an online collaboration platform aimed specifically at helping companies solve business problems. Clients pose their challenges to 10EQS, which then draws on its worldwide base of registered experts to deliver answers. As with other crowdsourcing services, the idea is to use the Internet to cost-effectively tap a wide range of minds.

In this era of big data, one of the biggest challenges can be making sense of all the information now available. Doing that is likely to require a structured process, and plenty of conversations and debates, before an organisation arrives at a clear point of view about where it's positioned today and where it plans to go in the future.

Enhancing competitive advantage

Structural advantage

Companies are always searching for an edge. Yet those edges are hard won, and often all too temporary. That's why this analysis has focused on teasing out where there will be sustainable gains – the potential for Australian business to use and lock in structural advantages.

Australia has many such advantages, yet many don't even feature when individual businesses assess their situations. This can be a costly mistake. Australia is indeed a lucky country, with built-in growth engines that much of the world simply can't match – but are our companies taking full advantage of these home-grown benefits?

To build unassailable sources of advantage that can be hardwired into the business, companies will need to do more than improve their people and processes. They will need to create or acquire assets that deliver structural advantages.

These assets could be intangible, such as intellectual property and brands, or relationships and networks that competitors find hard to emulate. Or they could be physical assets, such as properties and facilities. The business could acquire these assets, or strike exclusive arrangements to gain preferential access to them.

Competency advantage

Companies can build on their structural advantages by expanding their competencies.

A rapid way of increasing a company's competitive advantage is to develop superior talent. The focus here is on enhancing recruitment, motivation, day-to-day management and training practices to find, retain and develop the best people.

To ensure this advantage is sustained, those practices must be embedded and institutionalised within the organisation. They should also be complemented by innovative and incremental improvements to business processes that support greater productivity.

Looking outside, companies can partner with third parties to expand their areas of competency and create unique capabilities. This might include forming alliances with technical specialists, and outsourcing commoditised work that doesn't deliver an opportunity to differentiate.

Increasing exposure to growth

Portfolio mix

Yet these changes may not be fast enough to capture the biggest gains. A more aggressive way for a company to increase its exposure to growth opportunities is to actively change the mix of businesses it owns, or the areas of business in which it chooses to operate. This might involve acquiring or merging with companies that have greater exposure to attractive growth opportunities. Or it could involve forming alliances and joint ventures.

At the same time, groups may need to make hard decisions and exit areas where growth is limited, or where they lack sources of comparative advantage. Again, this is common sense, but there are many examples of businesses staying far too long in weakening market segments or areas where they lack a competitive value proposition. By the time they decide to move, they typically lack the financial firepower to do so on their own terms.

Resource allocation

Moving up the proximity to prosperity map involves better aligning a company's operations to areas of potential growth – areas that this report identifies as centres of growth over the next two decades.

Yet our analysis doesn't go to the level of detail needed by individual businesses. It is for you to weigh up the unique strengths and capabilities of your business, and to consider where the opportunities lie.

Once you do, the task is to act on that. After all, while it isn't clear that governments should 'pick winners', this is exactly the job of senior management and boards.

The organic – and typically lowest-risk – way to achieve this is to reallocate resources and people. For example, a company might consider focusing its investment dollars on areas with greater exposure to the drivers of global growth identified in this paper. The company could also look at deploying top talent into business units with significant growth potential, as identified under the ‘Opportunity radar’ on page 73. While this sounds obvious, organisations often miss growth opportunities because they simply don’t invest enough, are unwilling to move their best performers to newer parts of the business that promise growth, or fail to undertake transformation programs built around areas of innovation.

Whether you are leading a government or a business, it is vital to maximise the value of current growth waves.

These are precisely the steps companies typically need to take to effect a change in their proximity to prosperity. Whether you are leading a government or a business, it is vital to maximise the value of current growth waves, and to ensure you are positioned to ride those coming in the future.

Or to put it another way: no guts, no glory.

Sample analysis: Moving XYZ Constructions towards prosperity

To show how the ideas we’ve been discussing can be applied in practice, take the hypothetical example of XYZ Constructions – a major player in the building industry.

After 30 years in business, XYZ has become a leader in its specialist field in Australia, and has a large team with deep capabilities and a range of unique facilities and intellectual property assets.

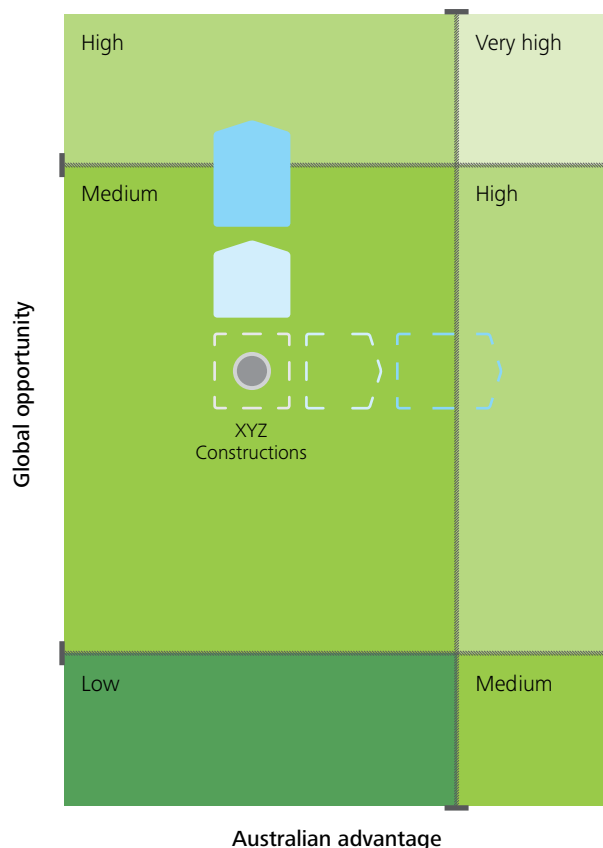
However, it’s only growing at 1–2% a year while competitors are achieving 10–20% by moving into new areas in Australia and winning international mandates.

Mapping its proximity to prosperity shows the company is sitting in the ‘medium’ proximity zone.

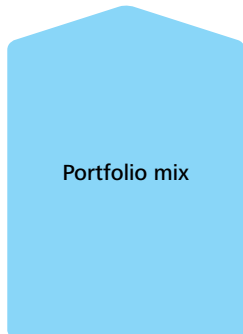
Based on this analysis, management decides the problem is a lack of growth opportunities rather than a lack of competency or structural advantages.

XYZ decides to focus on how it can improve its allocation of resources and change its portfolio to drive growth. Over the next three years, it plans to sharply increase its marketing budget and buy two comparable firms: one interstate and one in Asia.

Noting that growth in demand for gas may come to outstrip the matching growth in coal, it also plans to wind back its exposure to coal-related construction and increase its capacity to offer operational services to gas producers.



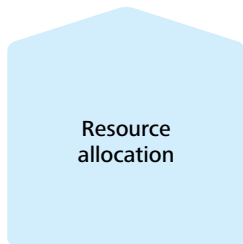
Source: Deloitte Access Economics



Portfolio mix

Deliberately raise GDP growth through:

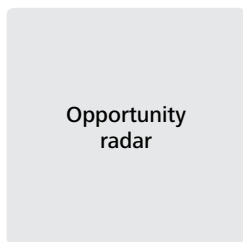
- Faster consolidation of mature industries
- Willingness to wind back existing (and often wasted) industry subsidies
- Bipartisan commitment to national growth strategy priority themes
- Attracting leading global companies in emerging industries to Australia.



Resource allocation

Increase sectors' exposure to high-growth markets by organically shifting resources through:

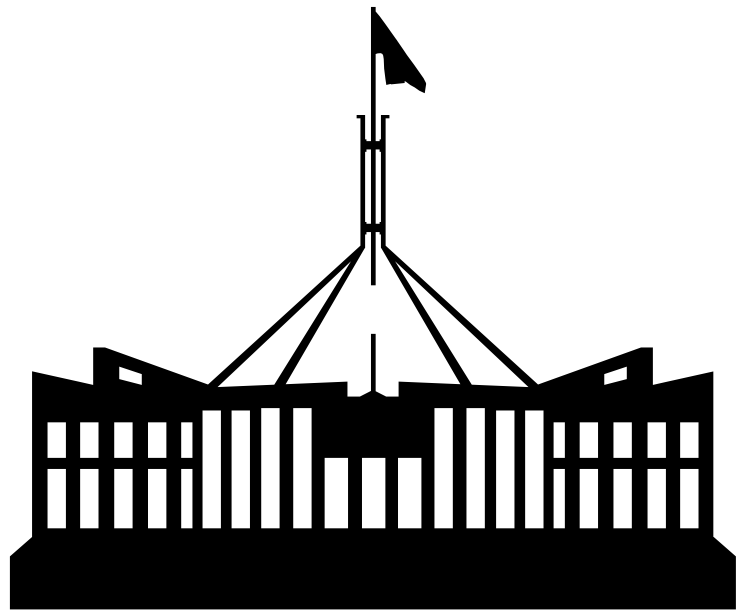
- Early termination of existing incentives/benefits to low-growth sectors
- Prioritisation of investment into strongest Growth Pockets within sectors
- Visible political support and championing
- Adoption of innovative operating models.



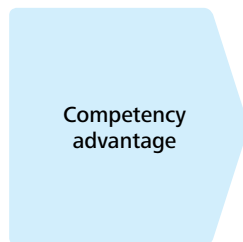
Opportunity radar

Drive superior sensing of Growth Pockets within sectors domestically and globally (including creating a business opportunity taskforce):

- Technological discontinuities
- Global regulatory regime changes
- Global demographic shifts
- A broad array of strategic risks
- Changing social behaviour.



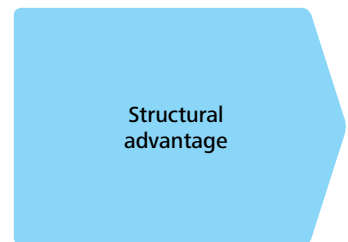
FOR GOVERNMENT



Competency advantage

Gain significant operating advantage through superior talent and/or business practices:

- Elevating productivity as a key goal for both federal and state governments
- Putting savings from subsidies into enablers like vocational training and Austrade
- Increasing immigration and special worker visas
- Enhancing business and government ability to work together on a common agenda.



Structural advantage

Secure positional advantage that is 'hardwired' and exclusive or difficult to imitate:

- Major national infrastructure (e.g. NBN, ports, roads, access to cheap energy)
- Regional development (e.g. policies to develop northern Australia)
- Policy context (e.g. tax, innovation incentives, regulatory burdens, legal)
- Trade agreements (both bilateral and multilateral).

Prosperity levers for government

When it comes to increasing proximity to growth opportunities and strengthening competitive advantage, government has access to levers comparable to those available to business. However, the courses of action open to government leaders will be different. In broad terms, businesses should focus on 'doing', while governments should focus on 'enabling'.

Even then, government must be careful. Given the difficulty of picking winners – especially by governments, where the track record isn't great – the need to safeguard taxpayers' money counsels caution. That is all the more true given the granularity of growth: the potential for success lies more at the level of individual businesses than it does for sectors as a whole, meaning that specifically directed government help can often miss its mark.

Ultimately, what most businesses – and the community at large – would like from government is policy coherence. They want to see different parts of government operating in a coordinated way and a workable level of agreement between political parties about the core elements of Australia's growth strategy.

Understanding positions

Opportunity radar

To say that safeguarding taxpayers' money can limit the potential for governments to focus on specific sectors is not to imply that sectoral prospects are irrelevant to governments. Quite the opposite.

Government must start by understanding where industry sectors are positioned relative to local and global growth opportunities, and the risks that those industries face. This will involve considering growth drivers and inhibitors, including technology developments and global and local shifts in regulatory regimes, as well as demographic developments.

This work can be completed by industry-focused taskforces charged with looking at which sectors are well positioned for growth, and how governments can assist them. These taskforces should also consider regulatory and other obstacles to success, along with potential remedies.

Enhancing competitive advantage

Structural advantage

It makes sense for individual businesses to play to Australia's natural advantages. But the same is true of government policies, which need to help the nation slipstream the changing nature of Asia's turbocharged growth and domestic megatrends such as ageing.

Those policies should help ensure that our ability to tap our natural resources and make the most of our advantages isn't hamstrung by poor policies and regulations. Accordingly, the government response to securing growth opportunities and strengthening competitive advantage will involve programs such as investing in infrastructure, changing policies and putting in place new trading relationships. These enabling policies can cement our structural sources of advantage so as to hardwire them even more strongly into Australia's economy.

Creating national broadband infrastructure is one example of a potentially nation-building investment aimed at enhancing our capacity to compete in a more digital world. So too are the expansion and improvement of transport and energy infrastructure to facilitate the growth of our resources sector and other industries, along with taking steps to ensure the northern regions of Australia can compete to their full potential.

More broadly, the public funding of infrastructure spending needs to be judged on its merits, not merely on whether it might exacerbate current debts and deficits. If it passes cost-benefit tests, then it should happen.

Competency advantage

More can be done than just trying to maximise our structural strengths.

For example, government is well placed to help increase industry capabilities through targeted education and training, supportive immigration policies, direct or indirect financial support, and generally using its weight to champion our business sector globally. The latter includes making the most of Austrade and political and trade relationships.

The key here isn't spending more – it's spending well. Together with industrial relations reform to ensure a focus on productivity growth at the enterprise level, these measures can improve Australian competitiveness by increasing the productivity and specialised capabilities of our workforce.

Changes in tax, innovation incentives and carbon pricing policies, and regular assessments of the effectiveness of green and red tape can also have a big impact – especially when they are well targeted and developed in consultation with the industries they are designed to help.

Related to that, Australia needs not only to make the most of its strengths, it also needs to address the costs of its disadvantages. Chief among these are its creaking federation, with overlapping responsibilities at every level of government leading to wasted spending and atrocious efficiency outcomes. Unless the design of our federation can be dragged into the 21st century – with all premiers and the prime minister leading reforms generated by the Council of Australian Governments (COAG) from the front – then it will be very hard for Australia to achieve its potential.

To develop these effective responses, government needs to collaborate closely with the business community. These interactions may be best led by industry associations.

Increasing exposure to growth

Portfolio mix

The more accelerated route is for government to use its position to directly shape the growth opportunities that Australia pursues. If government is actively intervening in the economy, then it should explore whether the measures it implements are aligned to growth opportunities and areas where Australia can compete most effectively.

One of the key goals of governments is prosperity. That means enabling a policy backdrop that helps reshape our economy so that more and more of our national income comes from sectors with greater growth potential. This might mean encouraging the consolidation of mature or declining industries, and winding back poorly directed subsidies.

At the same time, governments should be asking what commercial allies we want. Acting on this might include making it attractive for global leaders in next-generation sectors to establish operations in Australia.

Resource allocation

Can government help move Australia closer to prosperity by helping its industries align more strongly to high-growth sectors? The answer is yes. In fact, if we can take steps to enhance our structural and competency advantages in those sectors, then momentum will build as more money and people flow their way – a self-reinforcing and virtuous circle.

In addition, government should prioritise the clearing of growth blockages for those sectors or Growth Pockets identified as offering growth potential during the 'Opportunity radar' phase. At the same time, government will need to make difficult decisions to reduce subsidies to sectors that have low growth potential, or where Australia has no compelling advantage.

Government needs to lead the national debate, educating Australians on a simple equation: the more we support laggards, the worse Australia will do.

Let's start the conversation

There are plenty of actions leaders can take to help move organisations 'up and to the right' in our prosperity map – either closer to global growth opportunities, or better equipped to capitalise on them. Ideally, they can achieve both moves to generate exceptional and lasting sources of future wealth for Australians. The potential pay-off is huge.

But perhaps the most important step is simply to start the right conversations. The first is strategic and involves asking questions within companies and between businesses, industry associations and governments.

Those include:

- *What waves of growth are we riding today, and what waves can we see coming?*
- *How can we move our organisations into the best positions to capitalise on those future growth opportunities?*
- *How can governments enable growth rather than block it?*

The second conversation should focus on how we change mindsets and behaviours to support growth. Some of the key questions there are:

- *How do we make growth a national public priority?*
- *How can we all better collaborate to drive prosperity?*
- *What would a coherent national approach to growth look like?*
- *How can we build confidence in Australia's growth prospects?*

Appendix

Methodology

The calculated advantage

Our analysis

To determine where Australia was most likely to find its future waves of growth, we asked where we were most likely to see an intersection of global opportunities and Australian competitiveness.

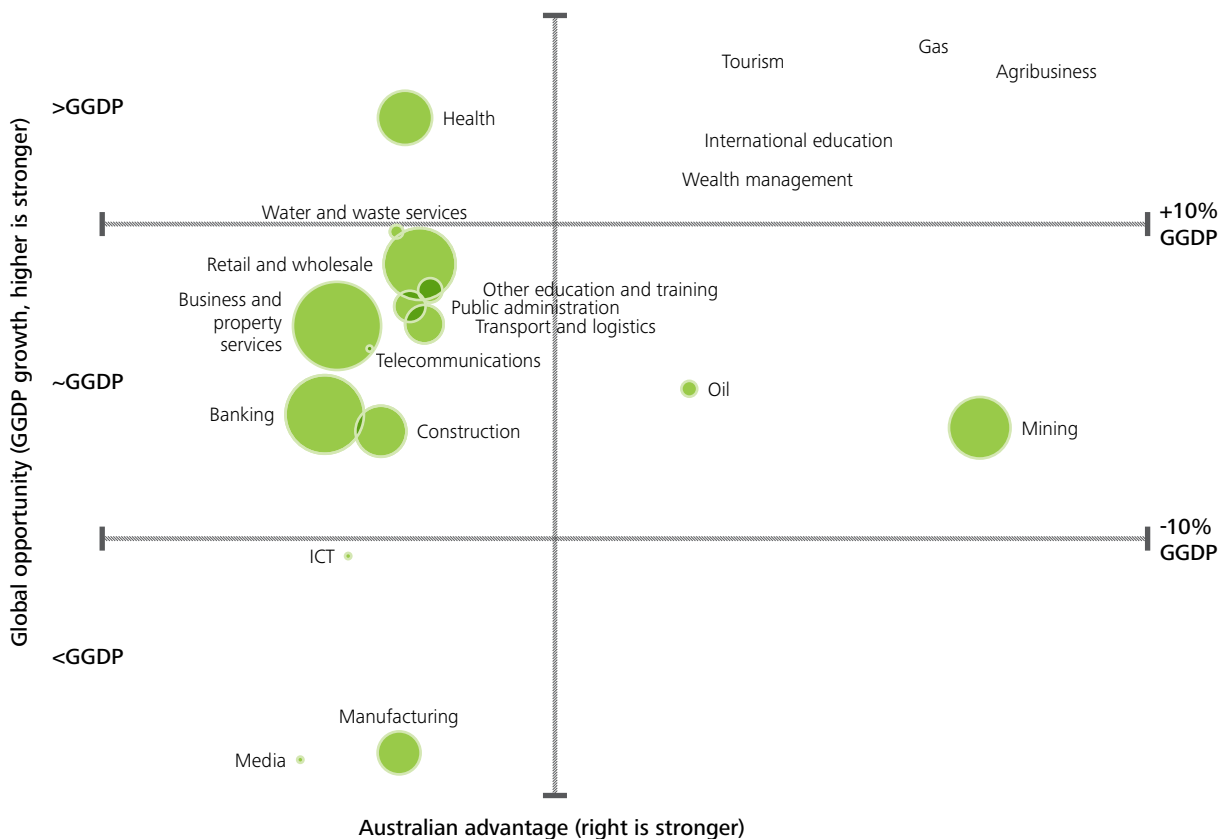
To address that question, our analysis had two key components: projections of global growth by sector and an assessment of 'Australian advantage'.

The result is shown in Figure 34, the Deloitte positioning for prosperity map that we introduced in Part I.

The vertical axis reflects expected global economic growth from 2013 to 2033. There are two lines positioned at plus and minus 10% above and below the expected global gross domestic product (GGDP) growth over that time (3.4%). The horizontal axis reflects Australian advantage and the size of the circles indicates the relative scale of each industry sector.

The higher a sector appears on the map, the faster it is expected to grow. The further to the right, the stronger its estimated competitive advantages when based in Australia.

Figure 34: Positioning for prosperity map



Source: Deloitte Access Economics

Global opportunity

Although economists have often projected where the global economy goes over time, most studies look forward by nation rather than by sector, though there is some limited material to use as comparators.

The resultant ranking over time is shown in Figure 35. Note that the total implied global growth (in purchasing power parity terms) is consistent with the global 10-year average from Consensus Economics.

Our forecasts draw inputs from key sectoral drivers around the globe:

- Urbanisation rates
- The rise of the middle class in emerging economies
- The impact of environmental concerns
- Population ageing
- The pace of global growth.

The resulting expected trends in global industry shares over time can also be seen in Figure 36.

Figure 35: Projected annual global industry output growth, 2013–33

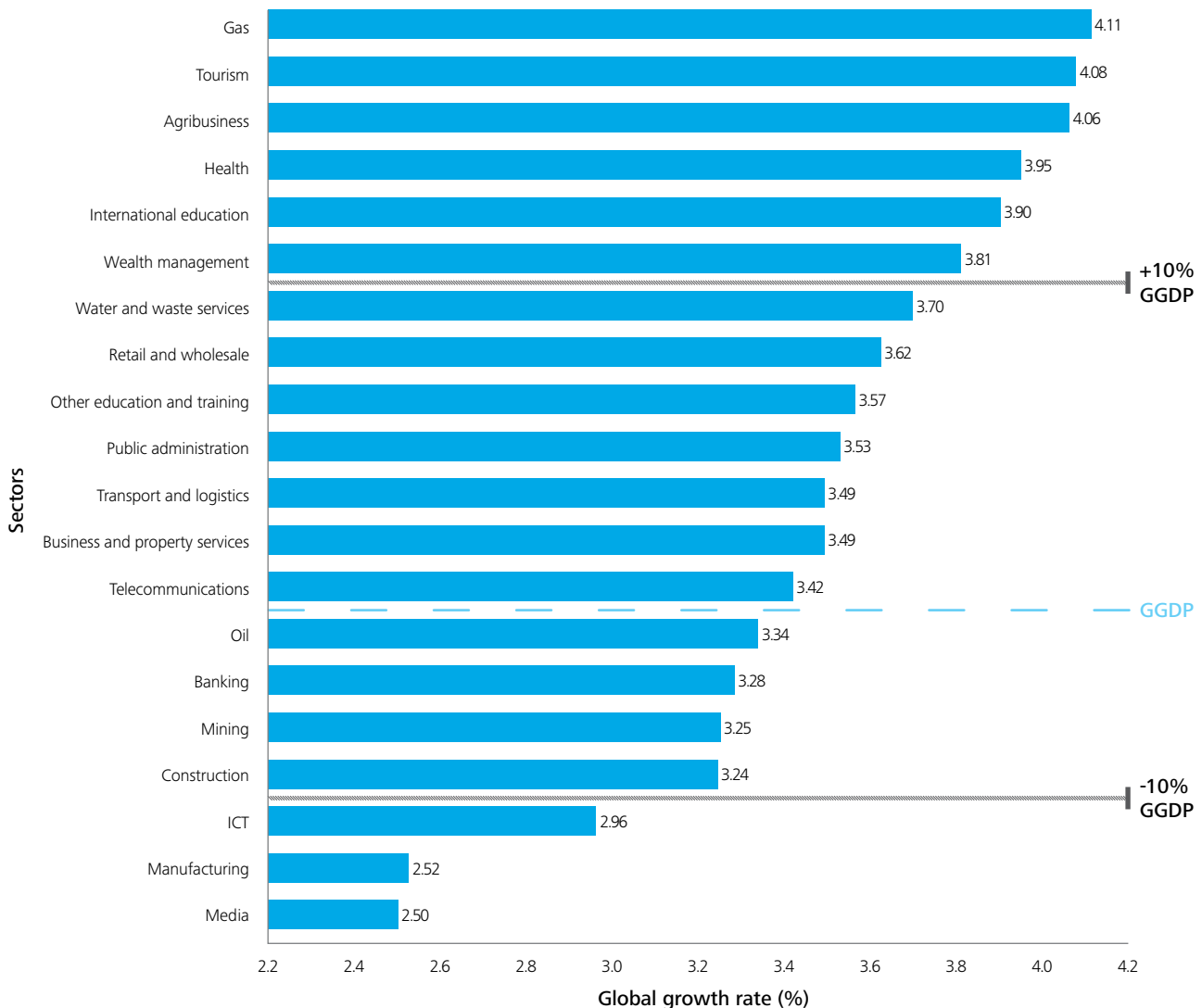
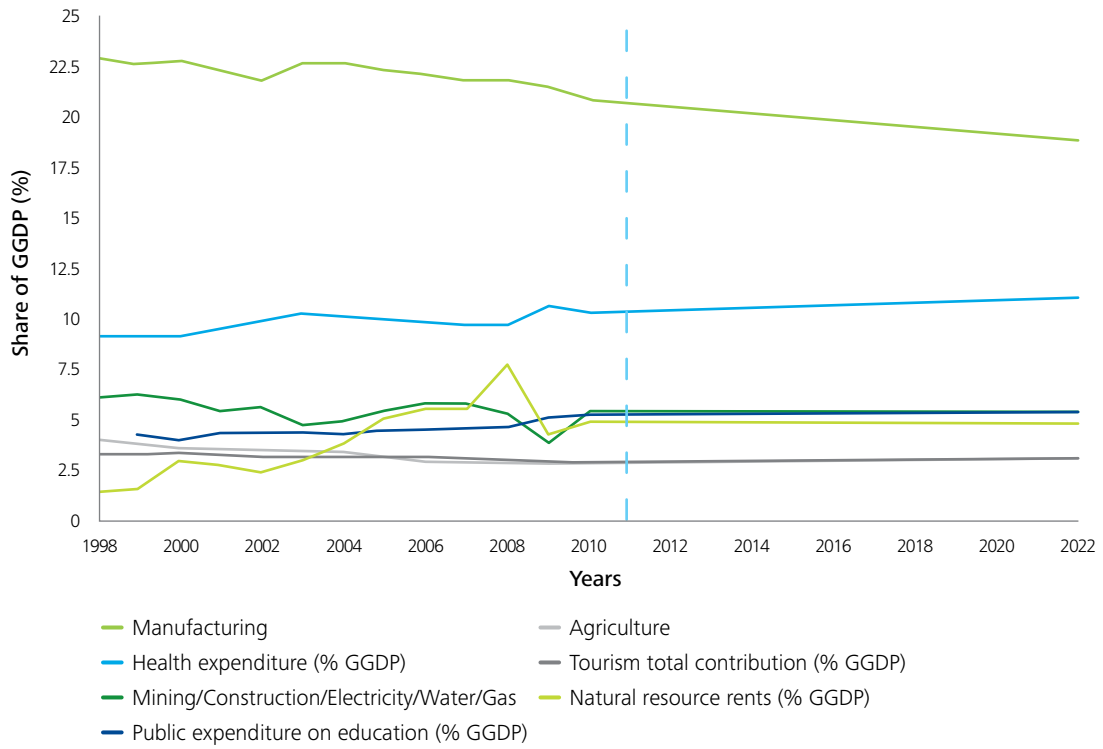


Figure 36: Forecast changes in global industry shares, 2013–33

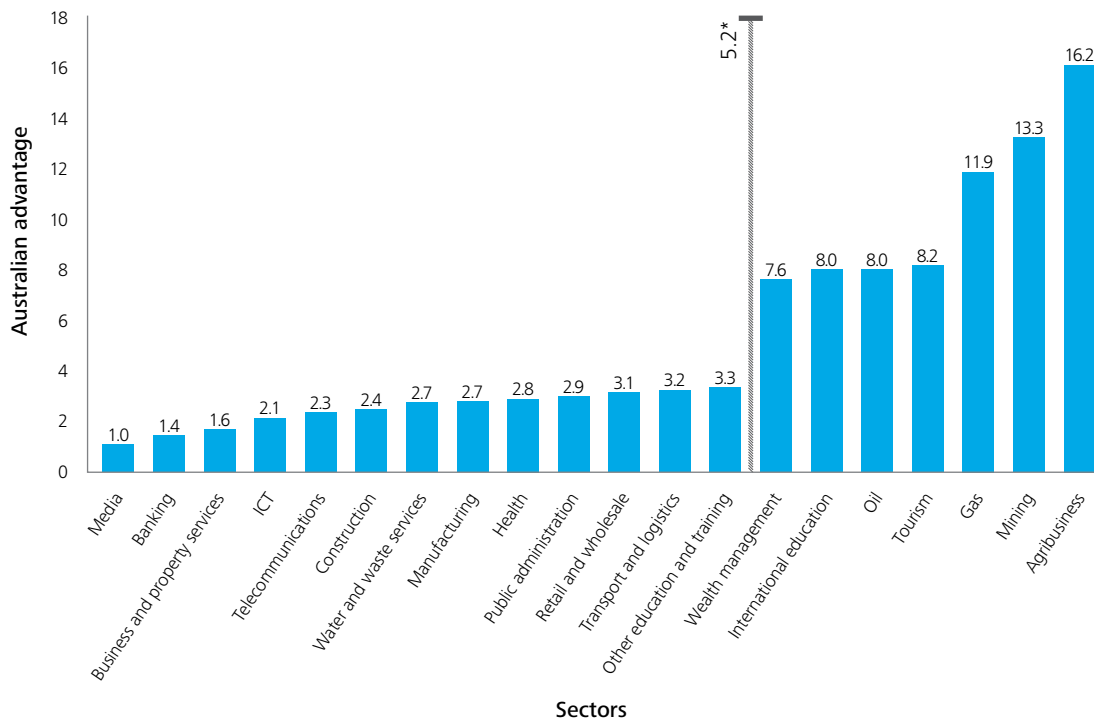


Source: World Bank and Deloitte Access Economics

Australian advantage

Because our analysis of global growth is based on sectors rather than nations, it ventures into less-travelled territory. This is even truer of our assessment of 'Australian advantage'. The end result is shown in Figure 37, where a higher score indicates better prospects for Australian companies.

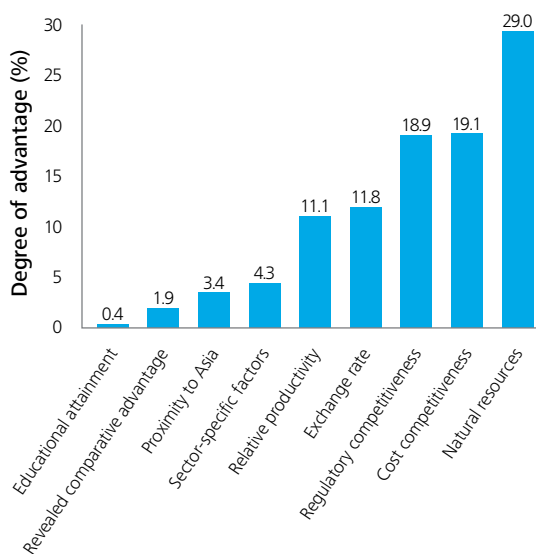
Figure 37: Areas of comparative advantage for Australia (relative advantage score)



Source: Deloitte Access Economics

* Average Australian advantage

Figure 38: Indicators used to assess 'Australian advantage'



Source: Deloitte Access Economics

Our material is drawn from many indicators, though not all indicators are available for all sectors. Those indicators (and their relative weight in the final outcomes) are shown in Figure 38.

In looking at these relative weights, remember that there are related groups of factors here:

- 'Natural resources', 'proximity to Asia' and 'revealed comparative advantage' are all related. Taken together, they drive about one-third of the total score
- Just under half of the score is linked to cost-related factors, including 'cost competitiveness', 'regulatory competitiveness' and 'exchange rate'
- Of the remaining components, 'relative productivity' is the largest. The latter is, in turn, affected by many of the other drivers in this analysis.

A related point to note is that although there are some disadvantages in having a number of related explanatory factors in our analysis, the available datasets to help assess Australian advantage have their own relative strengths and weaknesses. This means that a broader selection of explanatory factors will tend to help pick up a more accurate final figure than if we had narrowed the selection.

Some relevant components of Australian advantage

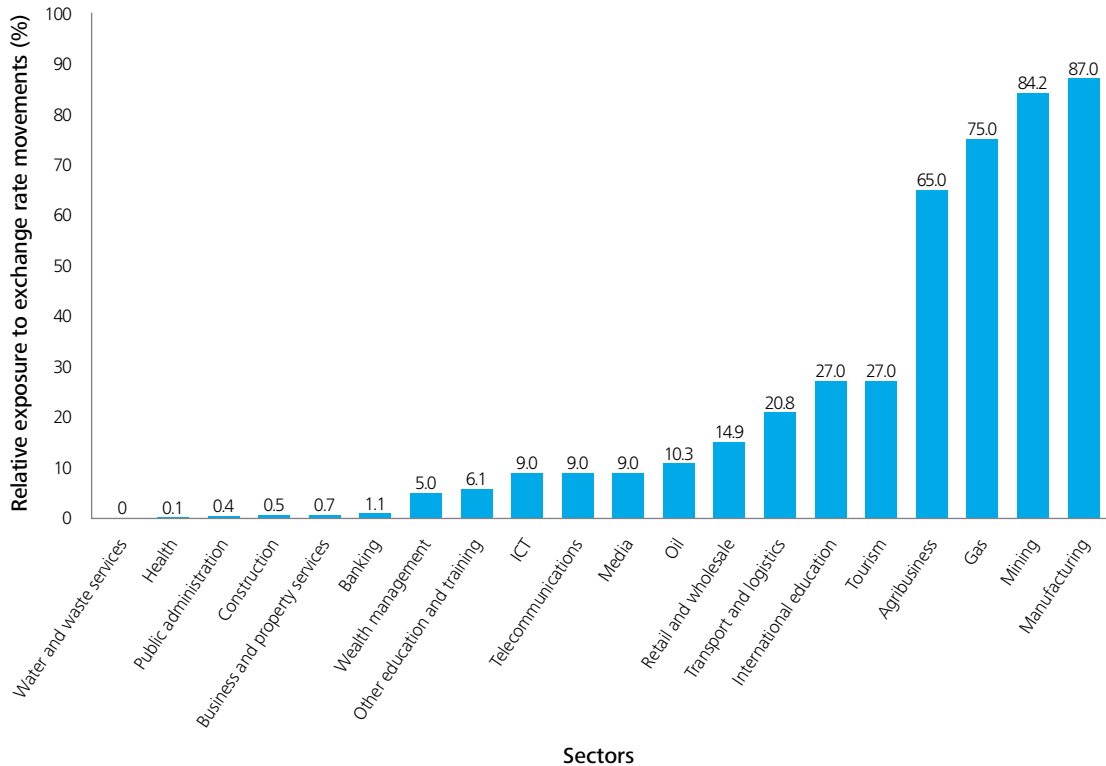
It is also worth noting some of the building blocks of the Australian advantage measure. First, because we project the exchange rate to fall further, that naturally has an impact on sectors where we export most of our product (such as mining) or import much of our demand (such as manufacturing; see Figure 39).

However, the Australian Bureau of Statistics (ABS) data are an imperfect guide to net export ratios at the industry level – in part because the categories we have chosen aren't themselves an exact match with ABS categories, but also because the available input/output data have some limitations in this regard.

In addition, there are some sectors where exports are about to leap – gas is an example – and so it would be misleading to use historical data for net exports. Accordingly, we have made some direct adjustments to the data.

The resultant ranking is shown in Figure 39.

Figure 39: Exchange rate impacts via net export ratios



Source: Deloitte Access Economics

Note: Net export ratio = (absolute value of) net exports as a share of output (value-added).
High numbers mean the sector benefits from falls in the A\$, but hurts when the A\$ rises.

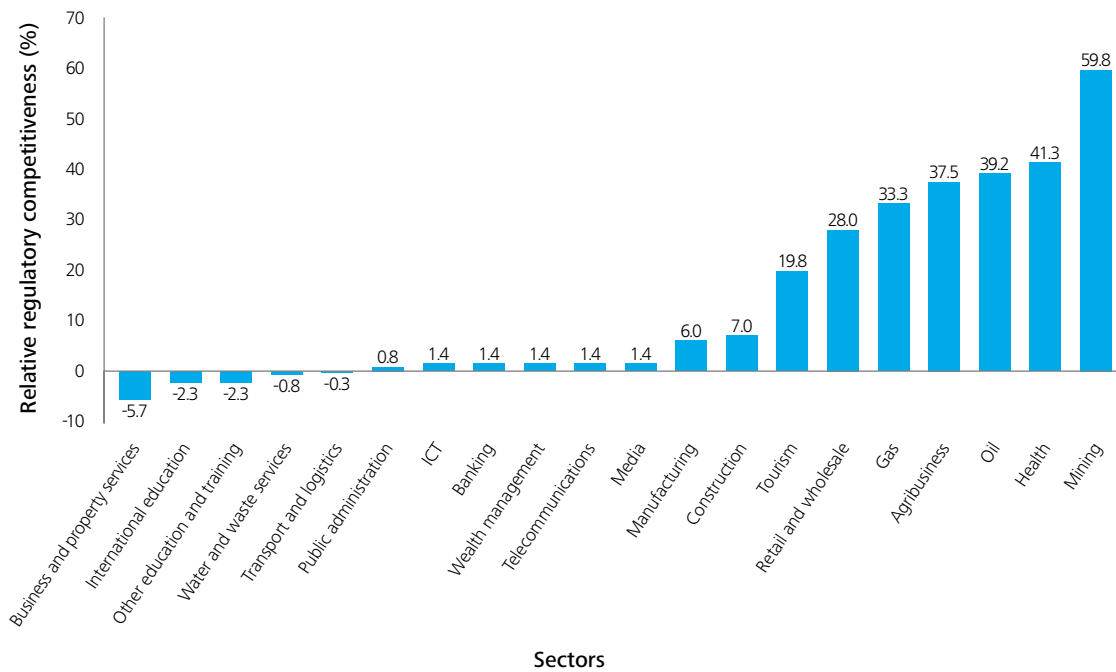
We used the World Bank Doing Business 2013 survey to rank Australia's regulatory framework against those of our competitors. The key here is that Australia has different competitors in different sectors.

For example:

- In gas development, we compete against countries including Qatar and Russia
- In agribusiness, we compete against the U.S., Brazil, Canada and New Zealand
- In business and property services, we compete against the U.S., the UK and Hong Kong, among others.

That competitor analysis allowed us to rank our regulatory strength by industry using the proxy of regulatory rankings by nation. The end result is shown in Figure 40. A key caveat on the available data is that we cannot readily compare the regulatory arrangements affecting sectors within each country. Accordingly, mining ranks well because many of the nations we compete with in mining are often seen as poorly regulated.

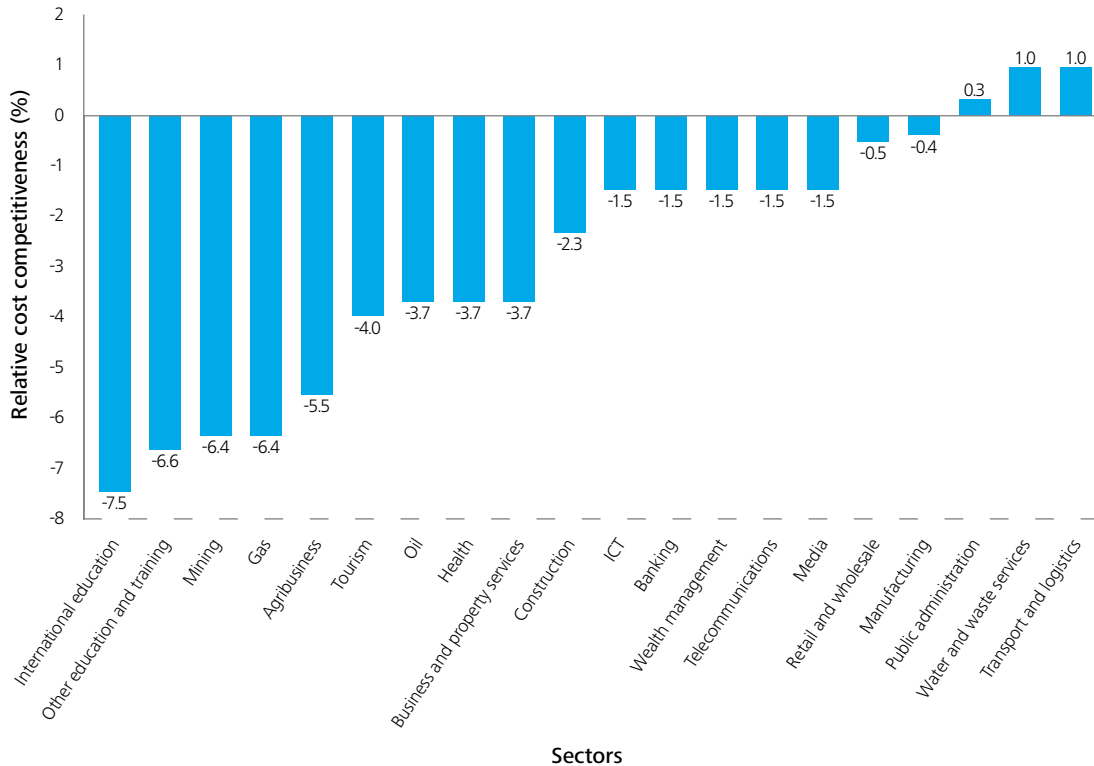
Figure 40: Australia's global competitiveness by industry sector



Source: World Bank, Doing Business 2013 survey

Note: A score of 20 means that, on average, Australia was ranked 20 places above our competitors in the industry on the World Bank's Doing Business 2013 survey. High numbers are 'good', while low numbers are 'bad'.

Figure 41: Australia's global cost competitiveness by industry sector



Source: Deloitte Access Economics based on data provided in KPMG's Competitive Alternatives report

Note: A score of 1.5 means it is 1.5% cheaper to do business here than it is to set up in one of the competitor countries in the industry. High numbers are 'good', while low numbers are 'bad'.

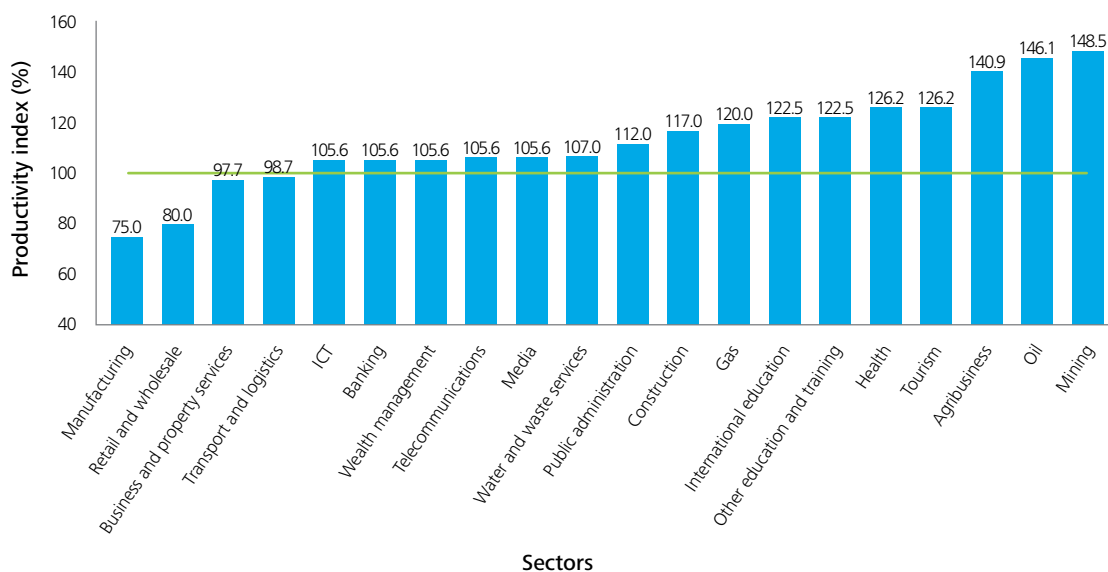
Similarly, we used studies of cost competitiveness to rank the latter, as per Figure 41.

We used data on output per employee across the nations of the world to extend related analysis by the Australian Treasury on Australian industry productivity. Whereas the Treasury research was benchmarked against U.S. industries, we again tried to identify relevant competitor nations to use in the benchmarking.

Hence, for example, our banking sector was benchmarked against productivity levels of the U.S., the UK, Germany, Japan and Hong Kong, while our transport and logistics sector was benchmarked against those of the U.S., Japan and Singapore – as seen in Figure 42.

As is true of our analysis of regulatory burdens, a key caveat on the available data is that we cannot readily compare the productivity of individual sectors within each country. Accordingly, mining ranks well because the nations we compete with in mining have low productivity, not because the mining sectors in those competitor nations are necessarily inefficient.

Figure 42: Productivity of Australian industry sectors compared to global competitors



Source: Deloitte Access Economics based on data provided in The Conference Board, Total Economy Database

Note: A score of 110 means that we are 10% more productive than the average productivity of our competitors in the industry.

A revealed comparative advantage parameter was also added to the estimate of Australian advantage in goods-producing sectors. Revealed comparative advantage is measured by a product's share of Australia's total exports, compared to its share of world trade. A value of more than 100% indicates Australia holds a comparative advantage in producing the product in question. Based on this calculation, Australia currently holds a strong comparative advantage in mining and less of an advantage in retail and manufacturing.

In addition, we rated proximity to Asia as a driver of Australian advantage. It too is affected by the expected further fall in the exchange rate.

Finally, we exercised our judgement with respect to several sectors. Among the sectors we marked down were:

- Mining, to reflect the strong weight of coal within Australia's mining sector, as well as a current lack of exploration funding, and the rise of new competitors. Other things being equal, the gains in gas will partly come at the cost of coal
- Manufacturing, to reflect a lack of new investment in plant and the lack of potential economies of scale
- Health, to reflect its low trade potential. In 2010, about 12,800 people visited Australia for medical reasons. While this number is growing faster than tourism numbers in general, it's still only a tiny fraction of the global medical tourism trade.

On the other hand, we marked up:

- Wealth management, to reflect the skills developed through superannuation stewardship
- International education, to reflect the value of being an English-speaking nation, and of having a possible pathway to permanent residency and citizenship. (Other education and training received a similar but smaller boost)
- Agribusiness, because our proximity-to-Asia measure effectively only picks up benefits related to transport costs, but agribusiness has the additional advantage of improved 'freshness' in product-delivery potential versus competitors who are further away
- Professional services, to reflect the depths of the Australian sector within the Asia-Pacific basin.

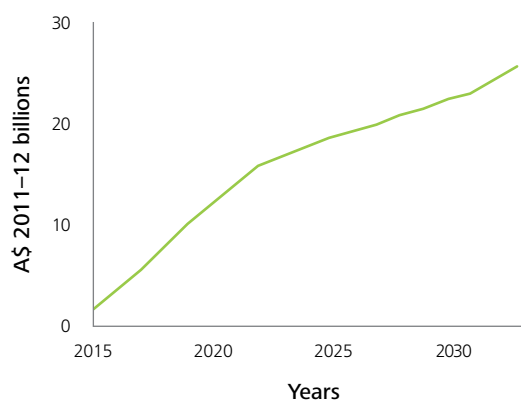
Modelling the impact on the economy

The other side of our analysis was to estimate how much the high-growth sectors that we identified (gas, agribusiness, tourism, international education and wealth management) might collectively contribute to the Australian economy over the next two decades if we were to fully capitalise on the opportunities they offer.

To form a view, we used the Deloitte Access Economics CGE Model, applying shocks based on outperformance in those sectors above and beyond what we might expect in a 'business as usual' economy.

Figure 43 demonstrates the additional activity that Australia could achieve in each year compared to what we would have experienced anyway. Expressed in today's dollars, these gains would generate an additional \$25 billion in GDP in 2033 alone, and a cumulative net gain in GDP of about \$250 billion over the next two decades.

Figure 43: Potential additional GDP contribution per annum*



Source: Deloitte Access Economics estimates.

* From outperformance in gas, agribusiness, tourism, international education and wealth management

Expanding our view to include domestic growth opportunities

To identify the 19 further growth opportunities listed in our Future waves discussion (starting on page 42), we have analysed the outlook for all of the sectors that make up the Australian economy. We then looked at specific business opportunities that might arise within those sectors – or across a group of sectors – and consider how large the growth opportunity might be, how quickly it might emerge and how likely it is to emerge.

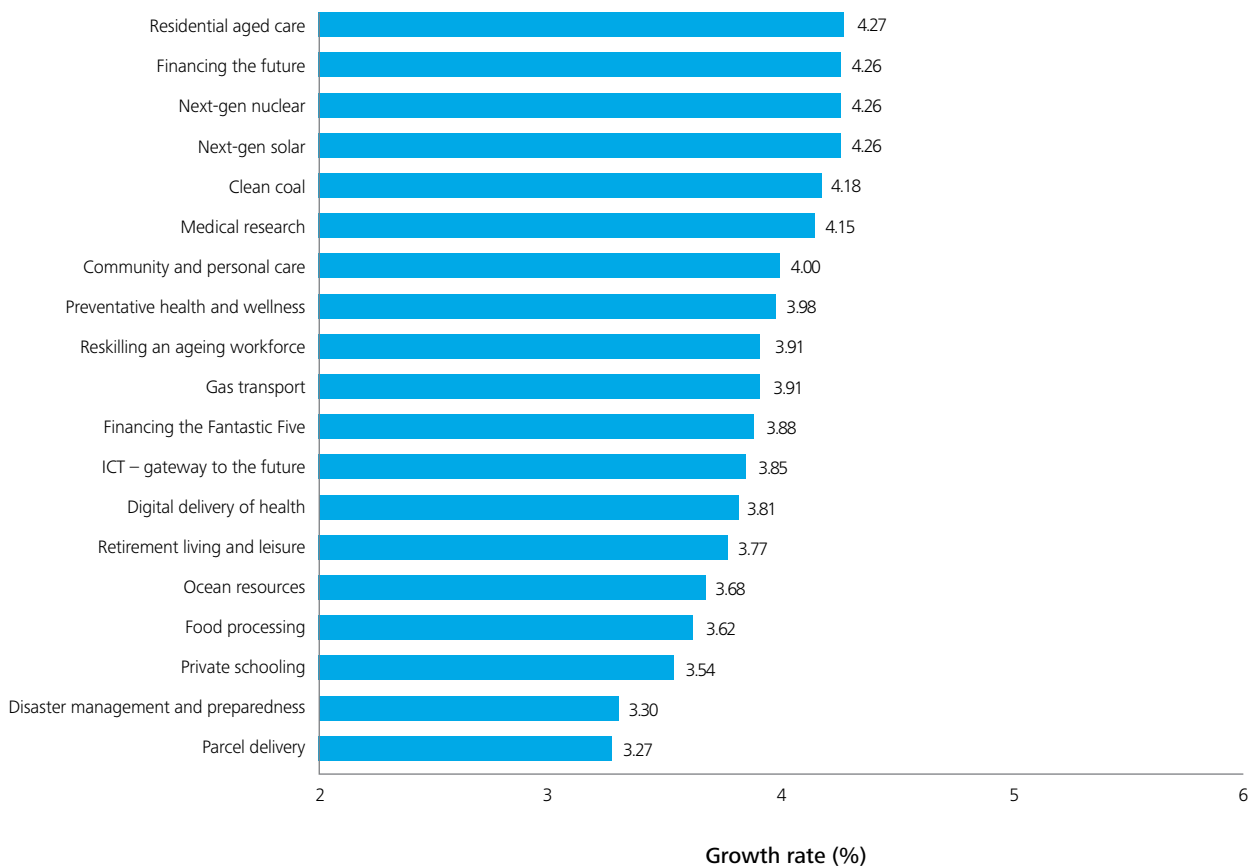
Opportunity

Unlike the Fantastic Five, our analysis of these 19 opportunities – which we refer to here as Growth Pockets (see Figure 45) – hasn't focused solely on the potential to tap into global growth as that would have unnecessarily ruled out areas of great potential. Rather, our focus is on the potential to tap into any growth pockets, thereby allowing us to identify a wider range of sources of success.

The global growth rates developed for our Fantastic Five analysis are still relevant here, as many of the Growth Pockets also sell into world markets. However, we have also drawn on Deloitte Access Economics' forecasts of domestic market opportunities, as released every three months in our Business Outlook series. In addition, we allowed for specific trends where appropriate, including demographic, technological and environmental drivers.

Figure 44 shows projected market growth rates across the Growth Pockets as a result of their links to their 'parent sectors'. As noted, the 'market' here is calibrated to the sector in question, with more domestic-focused sectors drawing more on domestic growth rates, and more globally focused opportunities drawing on global growth drivers.

Figure 44: Projected annual growth rates based on those of sectoral 'parents'



Yet the projected growth rates in Figure 44 assume that, apart from some direct demographic and other specific effects, the Growth Pockets merely grow in line with their 'parent' sectors.

Given that we have chosen these growth pockets for their ability to outperform, that is overly restrictive. How much better might they do than their parents? One indicator is the extent to which sub-sectors have already outperformed in times past.

For example, over the last quarter of a century, iron ore output has grown faster than overall mining production by a remarkable 4.8 percentage points a year, with that gap blowing out to 7.0 percentage points a year when comparing growth in iron ore to that in oil and gas. If iron ore production had merely kept pace with the growth in the overall mining sector, it would be less than one-third its current size.

There are similar – if less striking – stories in the rest of the economy. Air transport has outgrown the wider transport and storage sector by 1.8 percentage points a year, machinery and equipment has beaten manufacturing by 1.0 percentage points a year and gas supply has outperformed the overall utilities sector by 0.5 percentage points a year.

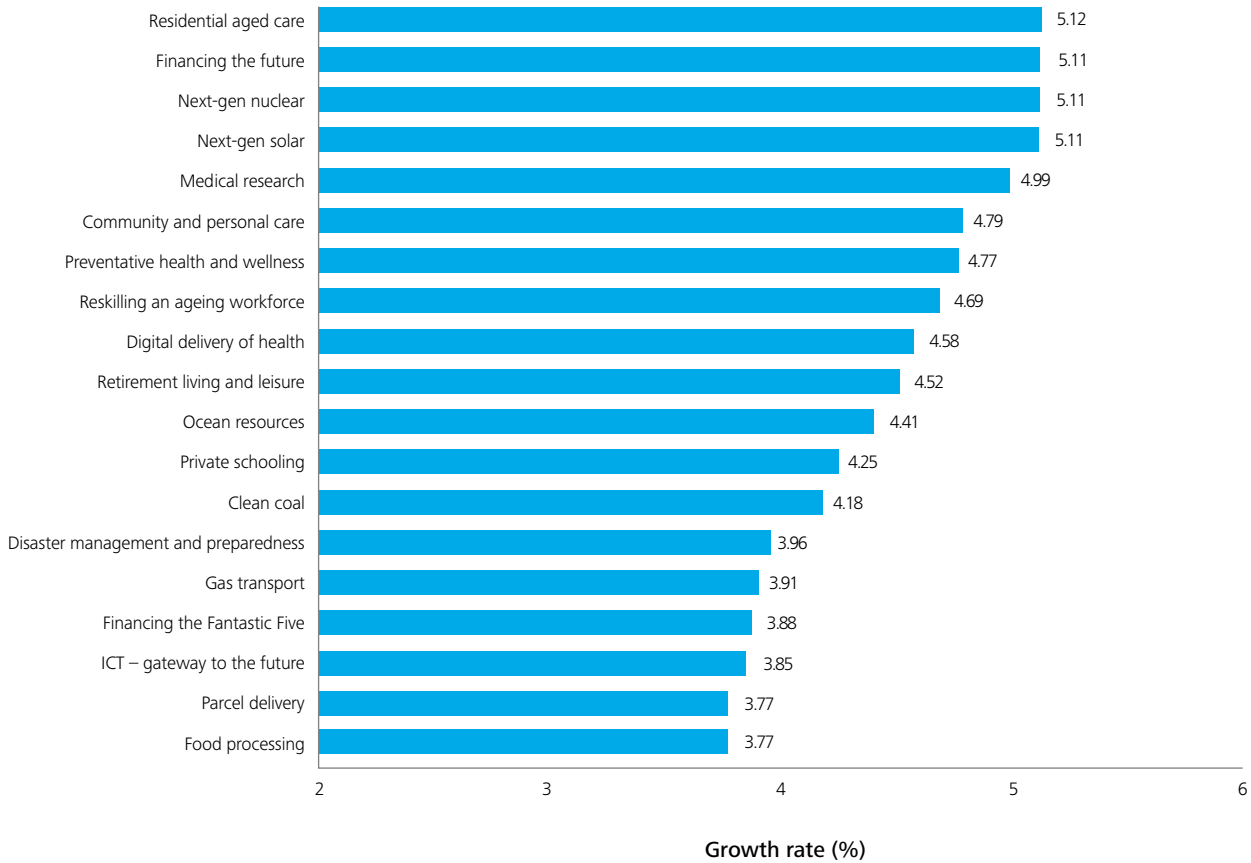
Given the relative size of the parent sectors (mining, manufacturing, transport and the utilities), that indicates average outperformance of 2.7 percentage points a year between a parent and the 'best in class' of its component parts. In other words, across the 27 years of history over which we have done these calculations, these Growth Pockets have doubled the output gains of their parents.

Moreover, these examples come directly from the industry data released quarterly by the ABS in its national accounts. The latter is a relatively small group of sectors, meaning that the outperformance of more detailed pockets – such as sales of resource-related machinery and equipment, rather than machinery and equipment more generally – would be larger still.

We have boosted the performance of some of the Growth Pockets by one percentage point a year – rather less than half of the gap of 2.7% a year noted above. Moreover, that factor hasn't been applied to the Slipstream Stars, which would otherwise appear to grow faster than the markets that they are selling into (the Fantastic Five).

Other things being equal, that generates a conservative difference of about 0.6 percentage points in the average growth rates in the Growth Pockets, which lift from 3.9% a year to 4.5% a year (see Figure 45).

Figure 45: Projected annual growth rates for Growth Pockets



These results are conceptually consistent with the Fantastic Five analysis. Hence, the second chart slots the Fantastic Five and mining into the results to create the DG25 – our master list of 25 globally and domestically oriented growth opportunities for Australia.

Given that these groups have been singled out for their potential, it is unsurprising that both fare well against projected Australian economic growth across the next two decades. At a little under 3% per year, the latter would be at the bottom of the following chart.

Figure 46: DG25 projected annual growth rates

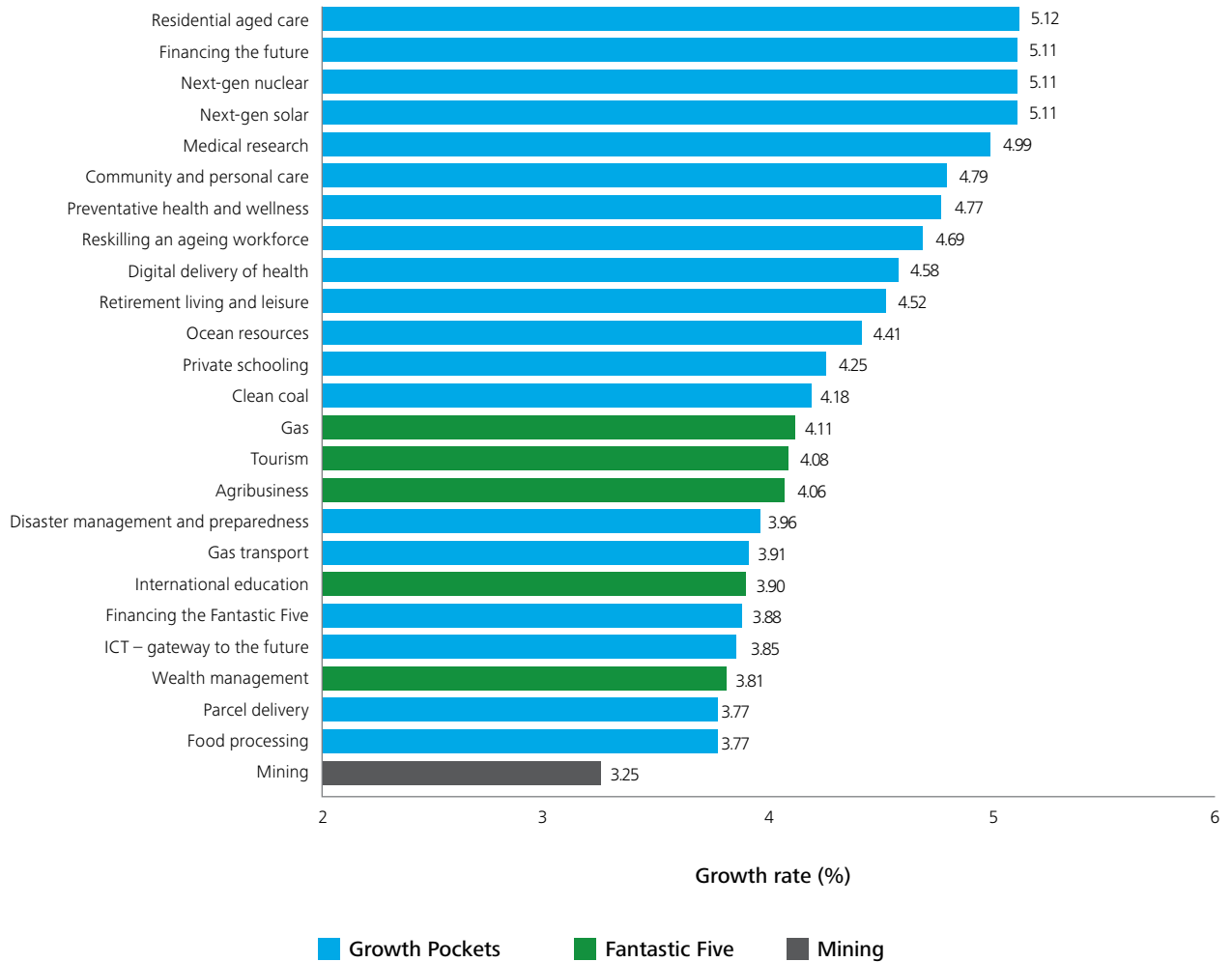


Figure 47: Growth Pockets: Slipstream Stars, Global Slivers, Local Heroes

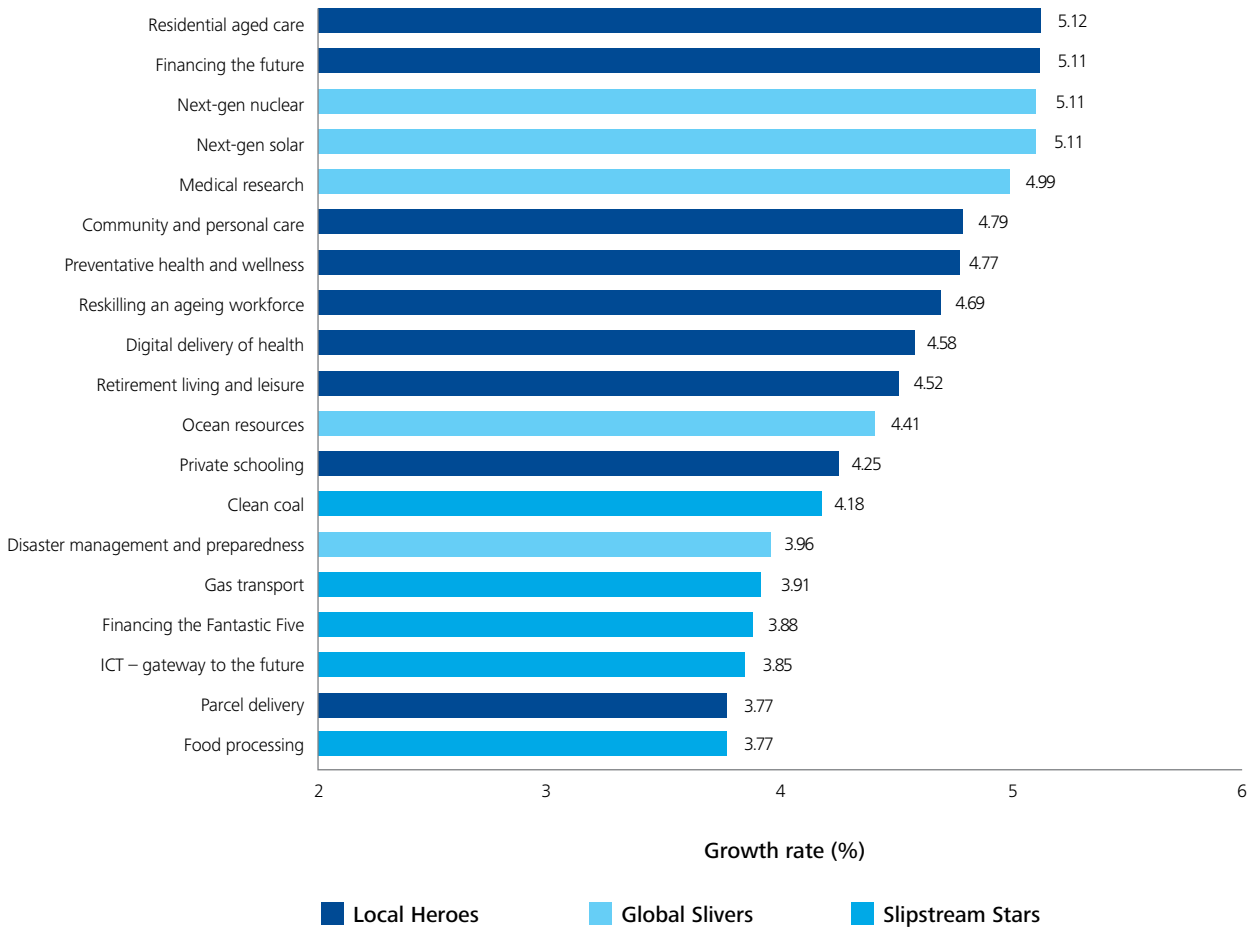
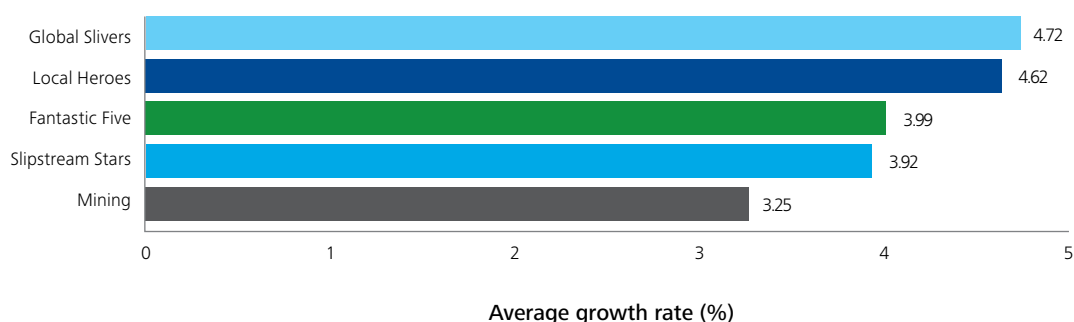


Figure 47 shows the three new groups of opportunities separately identified (using colour coding for each of our Slipstream Stars, Global Slivers and Local Heroes).

Figure 48: Projected annual growth rates for the DG25 by broad groupings



In terms of simple unweighted averages, the projected growth rates of these various groupings are similar – as Figure 48 shows.

There are also several themes in the results. For example, some of the Growth Pockets are closely tied to the Fantastic Five, either generally (as for ICT and the finance sector) or specifically (as for gas transport and clean coal, with the latter treated here as a substitute for gas).

Among these Slipstream Stars, the opportunities may be relatively more modest. For example, food processing is not projected to grow as fast as agribusiness, with the good news in food demand being less emphatic in related downstream manufacturing activities. There are similar caveats on the local finance and ICT sectors being able to catch all of the growth potential here (which, in turn, is a key reason why the Slipstream Stars as a group may not quite reach the projected growth of the Fantastic Five).

The Local Heroes provide seven of the top 10 among the Growth Pockets, as a range of megatrends (ageing, new technologies and pressured government budgets) collide and generate rapid growth in a variety of market opportunities, leaving it as the group with the second-best market growth potential.

Strongest of all are the Global Slivers. These are in two groups, with the strongest projected market growth rates related to energy. Next-gen nuclear and next-gen solar are treated here as substitutes for gas but – if they can overcome technical, cost and other challenges – they may even outperform gas. Ocean resources also has an energy component, but draws on a wider range of industries than more specific winners such as the Fantastic Five, and so ranks a little lower.

As is true of ocean resources, disaster management and preparedness draws on a number of sectors, which weighs on its ranking.

Finally, we exercised our judgement with respect to food processing, marking up its growth potential to reflect the projected impact of creating a more level regulatory playing field compared to the food processing industry in New Zealand.

Advantage

This brings us to the other component of our analysis: growth potential can only ever be half a story.

In determining the Fantastic Five, we also looked to Australian advantage, drawing on a number of indicators to assess the feasibility of Australia being able to capitalise on the opportunities that global growth is projected to uncover.

By definition, that meant assessing Australia's potential ability to compete against suppliers in the rest of the world. However, that yardstick becomes rather less helpful in assessing the Growth Pockets, as many of the latter are focused on naturally protected domestic markets. For example, chances are that Australians entering residential aged care or private schooling will almost always do that in Australia, rather than in, say, Canada, China or Germany.

Accordingly, we have added elements to the calculations to recognise the role of domestic markets on what is otherwise an externally focused assessment. To be clear, that means a wider lens than used for the Fantastic Five – the latter relied a lot on indicators linked to comparative advantage, whereas the blended measure adopted here also allows for demographic-driven advantage. We have therefore called this latter measure simply 'advantage' rather than 'Australian advantage'.

That said, the bulk of the Growth Pockets can be assessed in the same way as the Fantastic Five, using exactly the same drivers.

Assessing the Slipstream Stars

The Slipstream Stars are essentially drawn from the Fantastic Five and Mining. Hence, the advantage score of food processing is partly that of agribusiness and partly that of manufacturing, while the score for gas transport is partly that of gas and partly of transport.

Similarly, financing the future draws on the advantage scores of the Fantastic Five and banking, while ICT draws on the Fantastic Five and ICT.

For clean coal, we have used gas as the comparator – that is, the 'cleaner' burning of gas is a key reason for its relative strength, but if clean coal can match those attributes, then it can match the advantage of gas. In fact it can do better, given that Australia's share of global coal reserves is greater than its share of global gas reserves.

Assessing the Global Slivers

Similarly, we were able to draw on the industrial composition of the Global Slivers to help assess them on the advantage scale. The energy focus of next-generation solar and the potential for global action on next-generation nuclear allowed us to benchmark them against gas, while ocean resources also includes links to offshore oil and gas, as well as containing components related to transport and tourism.

Medical research draws on some of the same drivers as those already assessed for health, with medical research also pulling in elements of other education. Finally, disaster management and preparedness drew on a wide range of sectoral drivers, including construction and the utilities.

Assessing the Local Heroes

As noted above, we departed from the traditional scope of comparative advantage in assessing the scores of the Local Heroes. If we hadn't, they would have ranked poorly, even though the likelihood of their success compared to other sectors is relatively high.

In part, that reduced uncertainty arises because the Local Heroes have a very bankable attribute: unlike some of the more speculative candidates in the Growth Pockets, the inexorable impact of demographic destiny will help ensure these growth opportunities remain large and also relatively certain.

As such, we included an additional factor in the advantage calculation linked to demographic trends. These trends figured prominently in our assessment of the growth prospects for the Local Heroes. Accordingly, we applied the same weights used in the opportunity assessment for the matching advantage scores, benchmarking demographic impacts against the advantage score applied to agribusiness.

For example, 50% of the drivers of aged care relate to demographic trends, contributing half of the advantage score of agribusiness to the score for aged care. At the other end of the scale, demographic trends account for just 20% of the opportunity calculation for preventative health and wellness, so we attributed only one-fifth of the advantage score of agribusiness to the score for preventative health and wellness.

Judgemental adjustments

Finally, we made three judgemental adjustments to the scores obtained above where we were of the view that this methodology missed factors we considered to be relevant. The aggregate impact of these judgemental adjustments was just 1.3% of the total scores assessed across the Growth Pockets.

We added points to the advantage scores of:

- **Disaster management and preparedness**, reflecting the likely impact of rising environmental concerns on the willingness to invest in community preparedness. Working the other way, although the market opportunities around disaster management and preparedness are potentially high, many involve spending now to reduce risks down the track. Without government reaching into its own pocket – who should pay to raise the walls of Warragamba Dam, for instance? – some of these market opportunities may remain dormant across the two-decade horizon we use here.

- **Next-gen nuclear**, to reflect the attractiveness of Australia's relative geological and political stability. There's more than power generation in play here. As the then head of the UN's International Atomic Energy Agency (IAEA) said to the UN General Assembly in 2003, the UN *"should... consider multinational approaches to the management and disposal of spent fuel and radioactive waste. Over 50 countries currently have spent fuel stored in temporary locations, awaiting reprocessing or disposal. Not all countries have the appropriate geological conditions for such disposal and, for many countries with small nuclear programs, the financial and human resources required for the construction and operation of a geological disposal facility are daunting."*
- **Parcel delivery**, to reflect the likely impact of the use of drone technologies in the parcel sector, already under consideration and attracting investment from the likes of Amazon.

The resultant advantage scores are as shown in Figure 49, including mining, the Fantastic Five and the 19 Growth Pockets, to show the complete DG25.

Figure 49: DG25 Advantage scores ('comparative advantage' meets 'demographic destiny')

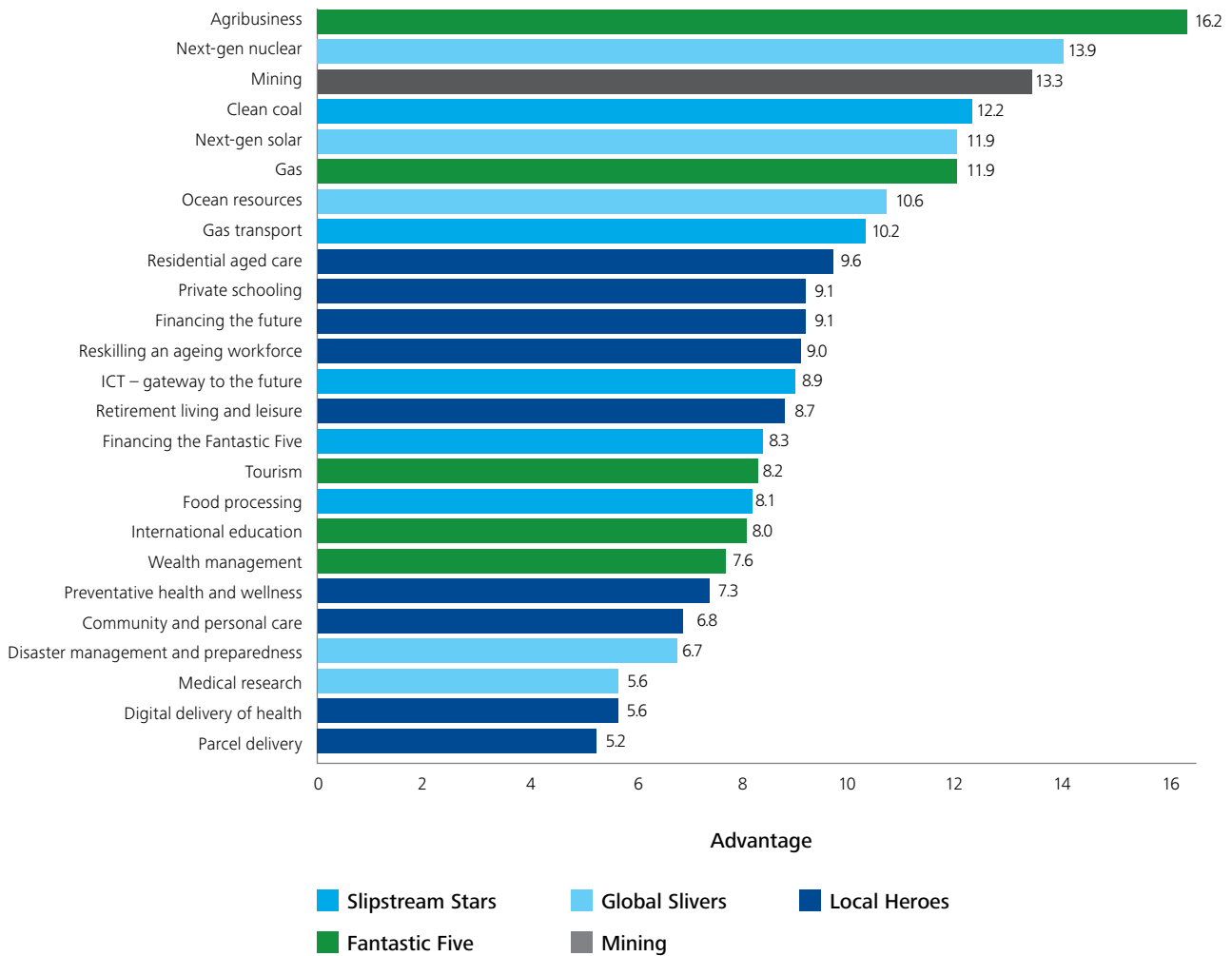
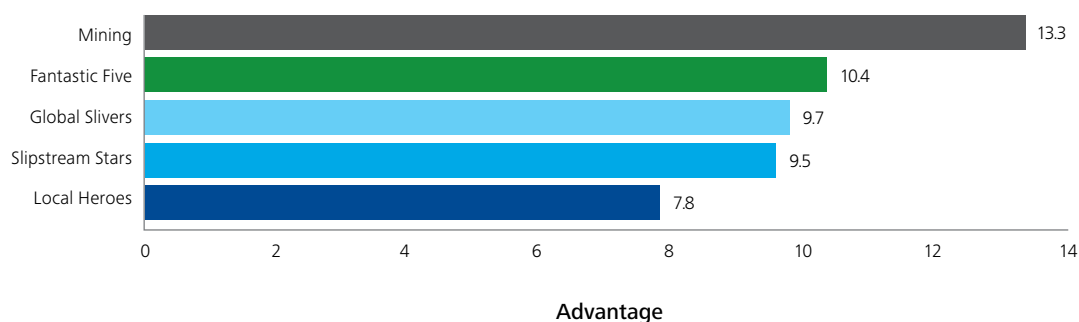


Figure 50: DG25 Advantage scores by broad groupings



In terms of simple unweighted averages, the advantage scores of these various groupings are seen in Figure 50. There is logic to the rankings shown above, with the Global Slivers ranking well. That is no surprise – after all, these are smaller niches consciously chosen for their potential.

It is similarly unsurprising that the Slipstream Stars lag behind Fantastic Five, because their drivers are weaker. As noted, for example, gas transport is a mix between our strong advantage in gas and the weaker advantage we have in transport and the utilities.

Finally, the Local Heroes rank the lowest of any group, but that is a deliberately conservative assessment.

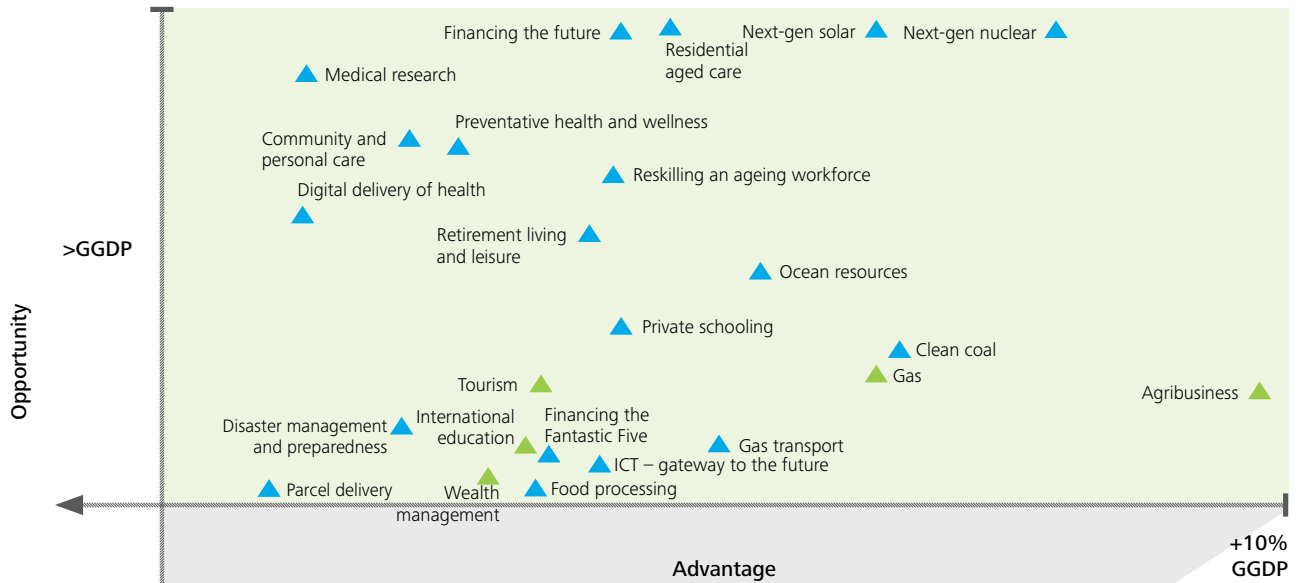
As noted, we have added an additional factor – based on demographic trends – to the more traditional drivers that are linked to comparative advantage and dominated the calculation of Australian advantage in the initial release of this report. The resulting blended measure ranks Local Heroes solidly on our advantage scale.

Opportunity meets advantage

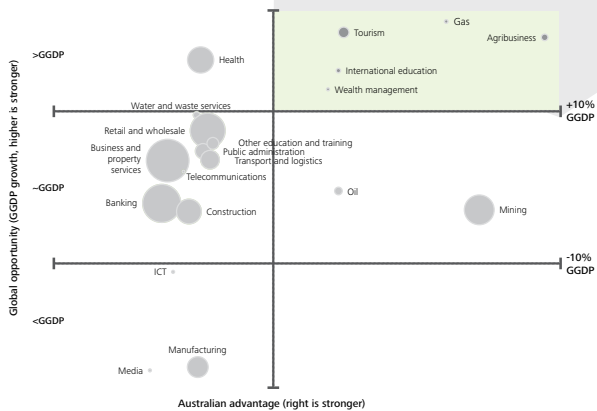
That then points to a bottom line where opportunity meets advantage, as is true of the Fantastic Five – those five sectors that jointly ranked highest in terms of global opportunity and Australian advantage. It is possible to do a similar exercise for the Growth Pockets.

Figure 51 does just that.

Figure 51: DG25 results matrix



Positioning for prosperity map



▲ Growth Pockets ▲ Fantastic Five ▲ Mining

Source: Deloitte Access Economics

The caveats are notable here. We are assessing relatively smaller niches than we did in identifying the Fantastic Five, and the vagaries of a number of relevant trends – Which technologies will develop faster? What will global and Australian tastes do? – mean that we can be less definitive on projected outcomes. After all, some of the growth pockets that our methodologies identify are, as of today, virtually non-existent.

Moreover, we have added domestic-focused sectors into a measure of advantage that is usually applied to international comparisons, using demographic drivers to do so.

Subject to those caveats, it is apparent that:

- There is a range of opportunities for Growth Pockets extending across virtually all sectors and states in Australia
- Many of these Growth Pockets will benefit from the collision of huge trends such as ageing, technology and pressures on government funding
- Some of the best opportunities benefit from all or most of these trends, as will be true, for example, for residential aged care, the way in which our banks will 'finance the future' or Australia's potential to tap into next-generation solar developments.

As noted earlier in this Appendix, we used the Deloitte Access Economics CGE Model to estimate the impact of outperformance in the Fantastic Five as a cumulative net gain in GDP of about \$250 billion over the next two decades. We did not repeat that analysis for the Growth Pockets, but it is worth noting that they are collectively large. As a share of the Australian economy in 2022–23, we project them to be some two-thirds the size of the Fantastic Five. Accordingly, if these opportunities have the same relative potential to unlock growth as the Fantastic Five, then they could contribute more than an additional \$150 billion to Australian incomes in the next two decades – over and above the potential for \$250 billion of gains from the Fantastic Five.

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