What’s over the horizon?
Recognising opportunity in uncertainty
What's over the horizon? Recognising opportunity in uncertainty

Foreword

Less than three months from now the Lucky Country will chalk up the longest recorded run without a recession that the world has ever seen.

Yet, as the International Monetary Fund points out, Australia is also increasingly suffering from the 'new mediocre' that has had global growth in its grip for the better part of a decade.

In part that is because our businesses, governments and families are acutely aware of the challenging times that have hit the globe over the past decade: not only economic and political developments, but also the rise of disruptive new technologies and increasing regulatory reach.

The challenges have increased uncertainty and left the business world worried. Faced with uncertainty around what’s in the future, they’re choosing caution. That’s entirely understandable, but it also means missed opportunities: we are increasingly over-emphasising what could go wrong and underweighting what could go right.

That conservatism is costly. As Franklin D. Roosevelt so beautifully put it, “the only thing we have to fear is fear itself”.

There’s a vital challenge here. Businesses, governments and families needn’t be as fearful as they are. As a nation and as a globe, we owe it to ourselves to face all the possibilities of the future, to think through the plausible ‘what ifs’, and to weigh up what they might mean.

If we prepare our organisations and ourselves better for what might happen, then we can face the future with greater confidence. And, in turn, that greater confidence will bring benefits: the less that ‘fear itself’ is what we fear, then the more prosperous the Australia of the future will be.

That’s why we’ve turned a spotlight onto three plausible paths for the future:

• What would happen if troubles in China sent Australia lurching into recession?
• What would Australia look like if we successfully slipstream Asia’s new booms?
• What would Australia look like if we get better at being ‘cyber smart’?

There will always be surprises, whether they are the likes of US election results, the Brexit vote, technological revolutions, turbulence in exchange and interest rates, or many others. But you needn’t be so afraid of the unknown: you can get a thought-through look at what those futures might mean, helping you to face the future with greater confidence.

Taking the time to scan the horizon is among the most valuable investments that businesses, governments and families can make. I hope these glimpses into Australia’s possible futures inspire you to take the time to look ahead at what could come next.

Cindy Hook
CEO, Deloitte Australia
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Deloitte Australia acknowledges and respects the traditional custodians of the land and their elders past and present. We take seriously our commitment to promoting reconciliation with Australia’s First Peoples.
Part 1: What’s over the horizon?
We’ve hit pause on global investment for the future – how can we connect the dots and fast forward to action?
Driven by more than a decade of volatility in economies, politics, and disruptive technologies, increased uncertainty has shaken the confidence of leaders.

Fear of the future has seen a fall-off in business investment – the pace at which the world is putting its money into a better future.

But we’ve overdone it. A closer look over the horizon suggests that even ‘bad’ futures aren’t nearly as bad as you might think, and that there are a bunch of ‘good’ futures too.

In this report we look at three possible futures in detail:

- What if China’s rise is temporarily ‘trumped’, dragging down Australia’s economy and our housing markets?
- What if Asia’s rise continues to provide prosperity to Australia for decades to come?
- What if we can become truly cyber smart?

Business and political leaders are responding to current conditions by being cautious and sitting on their dollars. How do we know? Investment in new capacity is a rather smaller share of the economies of the G7 nations than it was over a decade ago.

“There is a better life, a better world, beyond the horizon.”

Franklin D. Roosevelt, 1940
Yes, you read that right. Even though the world’s leading economies got bigger in the last decade amid ongoing increases in spending by both families and governments, Chart 1 shows the ‘future-focused’ spending undertaken by businesses has fallen as a share of those economies. And if businesses and governments aren’t taking reasonable risks – if they’re too cautious – then we all suffer.

Future prosperity requires the decision-makers of today to be able to see their way clear to make informed decisions. Deloitte regularly surveys CFOs across some 40 nations, and in the last 18 months there has been rising concern from the business world.

Executives have become awash in a sea of uncertainty: How much might President Trump rock the boat? Has China escaped slowdown? Will voters continue to undermine European unity? Could there be another global credit crunch? Will housing prices dive in Sydney and Melbourne? Will the Australian dollar soar or slump?

And that’s just scratching the surface. The fastest rising fears lie outside macro-economic risks. Will new technologies steal my customers? Or will cyber-attacks become more regular – and more successful? Could those attacks bring my business to its knees? Or what if terror attacks take out our nation’s key transport systems or our utilities? Or what if a pandemic strikes fear in the population to an extent that we choose not to leave home to go to our offices, our shops and our factories? What industries would fare best in an ‘ideas boom’ – and which of them could be left behind?

These fears come with a cost. As Chart 2 shows, the world is increasingly fearful of the future, pumping up the premiums we pay for safety as we worry more than we used to about what’s on the horizon.

And economists are increasingly seeing the impact of uncertainty.¹

1 Including both the Reserve Bank and the US Federal Reserve – see http://www.rba.gov.au/publications/rdp/2017/2017-01.html, where the conclusion is drawn that “estimates of uncertainty about future real activity and interest rates are now considerably greater than prior to the financial crisis”.

2 Markets have driven up the inflation-adjusted prices of government bonds over decades, partly due to a lift in saving, and partly – as mapped in this chart – due to the rising premium paid for safety. See the discussion at http://voxeu.org/article/higher-global-risk-premium-and-fall-equilibrium-real-interest-rates.
What’s over the horizon? Recognising opportunity in uncertainty

Don’t be scared. Be prepared

Uncertainty is corrosive, so **there’s more at stake than ever before**: Rising uncertainty means that change can arrive faster, and that its consequences can be more unexpected. In turn, that says the value of thinking about plausible futures has risen a lot.

But we’re in the same old rut: Despite these rising challenges, most organisations haven’t really changed the depth, frequency or methods of how they think about what may come next.

Fight uncertainty with information: The future may be uncertain, but it isn’t entirely unknown. The better the information you can bring to bear, the smarter your strategy can be.

So what information can help you navigate uncertainty? Can we help you to be prepared by thinking differently about what may happen in the future?

What happens next?

Our day job at Deloitte includes spelling out detailed forecasts on what we see as the most likely outcomes – growth across different sectors and the Australian economy as a whole; as well as projected incomes, wages and prices, interest rates and exchange rates.

But that ‘most likely’ view of the future is far from a done deal. After all, pretty much anything could happen – feel free to worry about the risk of a zombie apocalypse.

That’s why you need to also think about some ‘plausible outcomes’ as well as ‘the most likely outcome’.

We’d like to consider three plausible futures for Australia in this latest edition of our *Building the Lucky Country* series.

And, in particular, we’d draw your attention to the detail in the thinking and in the results in these scenarios. It’s the depth of information around plausible futures that will allow you to plan your best response to ongoing uncertainty. More on this in Part 3 of this report.

China sneezes, Australia catches pneumonia

Two of our scenarios are in the ‘what could go right’ category. But not all plausible futures are quite so happy. In particular, as the IMF recently noted about Australia, “a sharp growth slowdown in China could interact with or even trigger domestic risks, especially a housing correction.”

And a sharp slowdown in China is all the more possible at a time when trade tensions between China and the US are on the rise.

That scenario would bring our world-beating record run of growth to a juddering halt, sending unemployment soaring and house prices plunging.

Australia surfs Asia’s third wave

The best and brightest future for Australia is essentially ‘more of the same’ as we ride Asia’s boom to a better future. That’s a happier outcome than factored into our ‘most likely’ forecasts, because the latter assume a series of bumps in the road as China tackles a tricky transition and India struggles to maintain its growth momentum.

If achieved, the maturing boom in Asia would see the region’s rising middle class consumers power a new set of opportunities for our nation, generating a range of potential growth sectors across the economy.

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3 Those ‘baseline’ or ‘most likely’ views are set out in detail in a range of subscription publications. Please see [https://www2.deloitte.com/au/en/pages/finance/articles/dae-publications-subscribe.html](https://www2.deloitte.com/au/en/pages/finance/articles/dae-publications-subscribe.html).

Australia gets ‘cyber savvy’ – investing with confidence

New technologies and new markets bring new risks – notably cyber risk.

In response, we are all acting more cautiously. That’s understandable, because people are asking why they should spend big bucks on new ideas when those ideas can be more easily stolen than ever before.

But that view also comes with a cost. We are investing less in the future than we should be.

That cost is built into our ‘most likely’ forecasts for Australia. But we can and should do better than that. And, if we do, that will generate a growth dividend for the nation.

So another key scenario is one that sees Australian businesses, organisations and families successfully deal with cyber risk and, thanks to that, more freely investing in digital innovations.

Plausible – not pre-ordained

To be clear, none of these three scenarios is the ‘most likely’.

But they are all plausible. And unless decision-makers in Australia and around the world start to make a better job of assessing risks and opportunities, it is likely that the future will underperform its potential.

Scanning the horizon to think through what might happen next is one of the most valuable investments that businesses, governments and families can make.

To help you do exactly that we take a look at scenarios and outcomes generated by Deloitte Horizon, our new scenario planning and forecasting tool. Our take on these scenarios means that we can combine a look at what may happen, with more detailed information about how things will change (interest and exchange rates, wages, unemployment, for example) as the scenario takes place. We also take a look at we take a look at sectoral and geographical detail, as well as projections of profits, revenues and costs to give you the level of detail necessary to effectively plan ahead.
Part 2:

Three specific scenarios

A narrow focus doesn’t work—multiple views of the future give leaders the information they need
1. China tips Australia into a recession – hitting our housing

“A major concern is that external risks with a large impact, including a sharp growth slowdown in China, could interact with or even trigger domestic risks, especially a housing correction.”

International Monetary Fund review of Australia, November 2016

Australia’s gains from our relationship with China have been huge, but our dependence on China is also huge, and our vulnerability on that front has risen significantly over the past decade.

And 2017 brings with it a large fault line between our key economic partner (China) and our key ally (the United States). That fault line is centred on trade.

From early in the last decade we saw China, the largest nation on Earth, embark on an industrial revolution as it followed the successful path pioneered by the likes of Japan, Korea and Taiwan – building infrastructure at an incredible rate.

That’s been a magnificent way to accelerate development. But you can reach a point where you’ve built too much – which is exactly what China has done. Most warning signals on China are flashing amber:

• China has built too much, and has relied too much on debt in doing so.
• The resultant run up in debt has markedly increased vulnerabilities, with over-capacity everywhere from steel to housing, and with interest bills that will be impossible to pay for some enterprises.
• The leadership has kept using stimulus, delaying but worsening the eventual adjustment.

To be clear, we don’t see crisis ahead. This isn’t our view of what is most likely: it is an alternative view of the future. But were a crisis to hit, Australia would be in the firing line – China is our largest trading partner by far, and it determines the prices we receive for minerals and energy exports. We’d also lose some inbound capital from China, and not only into real estate.

Australia doesn’t have the financial defences it had in 2008 and 2009 – we lack firepower in interest rates and the budget, and as opposed to what happened in the global financial crisis (GFC), China would be part of the problem rather than a help.

So this scenario would bring recession here, and hit our housing prices too.
If China’s economy stumbles

Then
That would be bad news for Australia

Give me the headlines
By mid-2019, and compared with where they'd be in the absence of a downturn in China:
- National income – almost $140 billion less
- There'd be half a million fewer jobs
- Business profits would be down by 19%
- And house prices would be 9% lower
- But the $A would shed 15 cents vs. the $US.

But
Not all industries would be equally affected

Some winners
Tourism sector – lower $A – Australia is cheaper to visit
Australian farmers – costs fall but world prices hold up
Food and grocery retail – we always need the basics

Plodding along
Health care – stays pretty consistent due to megatrends
Education – downside limited by more foreign students

Back of the pack
Construction – activity reduced by 25%
Mining – a quarter of jobs lost
Real estate – profits down 15%
Finance sector – profits down 40%

Across the states
WA, NT, QLD have most direct exposure, VIC also hard hit. TAS and SA job losses are fewer. NSW least affected, but ACT the relative winner.
What's over the horizon? Recognising opportunity in uncertainty

Why might it happen?
This scenario might just happen anyway, but now there's a Trump card in play that increases the likelihood of it happening – and sooner rather than later.

China needs more growth, and will therefore logically let the (overvalued) yuan drop further (and maybe faster) to help achieve that. But at the same time the US also wants more growth, and it specifically wants better job outcomes in US rust belt states, as well as a lower trade deficit.

However, the higher goes the $US, the harder it is for all those US aims to be achieved.

Pre-Trump the greenback was already on the rise, and markets now see some potential for US growth to be gingered up by a leavening of tax cuts and infrastructure spending. That has seen them push the $US even higher.

The reaction of the Chinese authorities has been to head the other way. Amid a phase of further increases in the greenback, there have been further falls in the yuan. And why wouldn't there be? If there is a risk of tariffs being applied by the US to Chinese imports, then why not get in first and make your currency more competitive?

However, falls in the yuan could prove to be a red rag to the US, all the more so if the Chinese authorities try to get ahead of those moving money out of the country by having a one-off depreciation. And if such shifts in exchange rates put continuing pressure on jobs in the rust belt states of the US, they may ultimately encourage the new president to follow through on his threats of tariffs aimed at China.

After all, the US already (if unreasonably) sees China's currency as undervalued, so they'd interpret further falls in the currency through a rather dark lens.

There is, therefore, a risk of something like a trade war.

Were that to happen, there'd be no winners: China, the US and the entire world would be worse off. Not only would the pace of economic growth be lower in China, it would be lower in the US as well – and here at home in Australia too. That is a scenario with the potential to damage US-China relations, to undermine the competitiveness of US multinational corporations and their global supply chains, and to trigger a global proliferation of protectionist measures.

If China sneezes, then the Australian housing market could catch pneumonia: the above scenario – were it to come to pass – could place Australia in a pretty pickle. Although the chance of this scenario happening isn't high, it would contain not just classic economic risks, but major geopolitical ones as well.
The US is Australia’s main ally, but China is our main trading partner. The gap between those two key relationships for Australia has never been this big.

And any ‘trade war’ could tip China into greater trouble. After all, China is no miracle. Its economy is badly out of balance. Its businesses and its banks are buried under a mountain of debt that’s still growing, its private sector has stopped spending on capacity expansion, the nation’s currency remains overvalued, its demographics are worsening, and its politics is getting in the way of better outcomes.

In part, the latter is because the transition that China’s economy has to undertake involves pain and, as is all-too-true for politicians around the globe, the Chinese authorities have blinked in the face of the resultant opposition. That unwillingness to live with the ‘no pain, no gain’ equation implicit in most reforms helps to explain the series of policy reversals and cloudiness that appears to fog policy pronouncements in China.

**An imbalanced economy**

Why might China be vulnerable? Let’s tick off the challenges it faces, starting with the need for rebalancing. China has built too much, and it relied too much on debt in doing so. For its economy to rebalance, it now needs to see relatively less construction and relatively more retail spending. However, the risk is that the necessary rebalancing occurs through a marked drop-off in construction – in which case overall growth in the economy falls away sharply.

Beyond housing, there’s some evidence of that already: the growth in capacity expansion (business investment) by private businesses has fallen away, with overall growth in investment propped up by spending by state-owned enterprises.

Yes, you read that right: for all the claims of addressing over-capacity in industries such as steel, iron, shipping and railways, it is the inefficient state sector that is being used as a shield against slowdown.

In other words, China’s economy needs to transition, but that transition weakened overall growth, so the government pushed back against it. That is directing resources into those sectors that are the least profitable and the most over-burdened with debt.

So China is trying to grow its way out of its problems, but it’s trying to do that by boosting growth in the areas where it is least well-equipped, at a time when the global backdrop isn’t supportive. That’s a key part of why China’s growth has recently recovered: it is holding up (1) thanks to old economy sectors getting a second wind and (2) via service sectors (such as real estate and finance) selling into speculative bubbles.

**Rapid increases in debt and the rise of ‘zombie businesses’**

Then there’s debt. Since the GFC first hit in 2008, debt in China has grown at almost three times the pace of national income. By continually resorting to cheap credit, the nation’s debt-to-annual national income ratio has therefore leapt to more than 270%.

Much of this jump in debt has been driven by government-owned businesses borrowing from government-owned banks. That has left the share of the total debt burden held by businesses and state-owned enterprises at two-thirds – much higher than elsewhere in the world. In addition, much of this isn’t ‘good debt’ – debt that makes sense from a commercial vantage point by paying for assets that will ultimately earn the income to repay that debt into the future.
And here’s the thing about debt: it raises vulnerability. Yes, it is true that this isn’t foreign debt – the Chinese have borrowed from themselves. But when debt is this high (and even more so when it is rising this fast), you don’t need much to go wrong before a bunch of borrowers pay to repay.

That asymmetry can cause damage whether the debt is domestic or foreign.

The pace at which China’s debt has grown means that more and more companies don’t have sufficient revenue to cover interest costs. The resultant rising numbers of such ‘zombie companies’ means China’s banking system needs extra capital, but the banks will have to get that extra capital from taxpayers. Taxpayers will also be on the hook to fund local governments, as the latter have relied on inflated land sales that are unlikely to be sustainable. That combination says China’s budget is more stretched than the published figures suggest.

Bubbles in the property market

Now let’s tick off housing. China’s economy may be slowing, but apartment prices in some of its leading cities – Shanghai, Beijing and Shenzhen – have been sprinting. The connection is that cheap money has driven a wedge between the income-earning potential of China’s economy on the one hand, and the price being put on assets within China on the other. That has encouraged speculation, meaning prices are rising fast even though the number of unsold apartments is huge.

This is yet another way in which China has borrowed growth from tomorrow to support its economy today. Housing in China will eventually cost a smaller multiple of wages than it does today. That could happen over a decade or so, in which case it would be a modest headwind for economic growth. Or it could happen faster, if something triggers a wider shakeout.

To be clear, the authorities still have a lot of ammo at their disposal, and they appear willing to use it. And Deloitte’s economics team in China sees a range of reasons to believe in resilience. But policies that pump up current conditions at the cost of future growth (and future vulnerability) will continue to need a close watch, as they could cause a crisis.

The authorities have preferred stimulus over adjustment, trying to grow their way out of trouble by encouraging bubbles in sharemarkets and in housing. Yet that buys more growth today at the cost of greater risks down the track – a Faustian bargain. And remember these challenges hit just as an ageing population is starting to eat into Chinese growth.

An overvalued currency

And then there’s the currency. Despite ongoing falls, China’s currency remains overvalued. Part of the problem for China is that, although its currency has fallen in value, it has fallen far less than that of other emerging countries. So China’s exports have lost competitiveness versus those of other nations. Indeed, some manufacturing capacity has departed in recent years as China’s wages have risen and its competitiveness has fallen, with that capacity heading to other low-wage emerging markets. Meanwhile, the Chinese central bank has sold foreign currency reserves in order to stabilise the currency and prevent a sharper depreciation.

There will be further depreciation in the years ahead, in the main because a falling currency will rank among the ‘least worst’ of the outcomes and levers available to the Chinese authorities.

But there are dangers for the world if the yuan does dip further over time, as:

• That handballs more of China’s slowdown into world markets rather than keeping it more bottled up inside China itself
• And it may prove to be a red rag to a US bull, threatening the start of a ‘tit for tat’ protectionist trade war.
When might this happen?
The Chinese authorities have declared a target of doubling the economy's size in the decade to 2020 (2021 will mark the centenary of the establishment of the Chinese Communist Party).

Achieving this won't be easy, so the authorities are keeping the pedal to the metal.

However, such artificial targets can create problems: the authorities appear to be more focused on short-term outcomes rather than longer-term prosperity, and that focus would increase vulnerabilities.

Accordingly, the scenario outlined could be triggered any time between now and 2020.

Equally, however, the trigger could arrive in mere months. China's economy is already stretched and vulnerable, and the new US administration could end up playing with fire in a way that triggers troubles.

That could see a slowdown in China (and globally) bringing on this scenario sooner rather than later.

Possible triggers could include:

- **A trade war:** Tit-for-tat tariffs and import restrictions would be a dumb way for the entire world to turn its back on the benefits of free trade. And it would also unleash a loss of confidence within China that could be dangerous. There is considerable faith – by businesses and ordinary Chinese – in the ability of the authorities to stave off troubles: sharemarkets and housing markets are assumed to have implicit government guarantees. However, a trade war could rapidly puncture that confidence.

- **A banking crisis:** Bankruptcies among ‘shadow banks’ (which raise money from Mum and Dad depositors to finance real estate development) could trigger a wider banking crisis. And if the government’s reaction to that is too slow, then growth would falter fast.

- **A loss of confidence:** If the populace lose faith in the ability of the authorities to keep housing losses and sharemarkets from falling, they’ll try to take their money out of those assets.

**Impacts on Australia**
China is Australia’s largest trading partner and its health is essential to our prosperity.

We have defences that would swing into play were China to stumble: the $A would fall, the Reserve Bank of Australia would want to cut real interest rates, and the Federal Government would start stimulus.

Yet that wouldn’t stop a recession – we simply don’t have enough ammo to fight it off. Compared with the GFC, today’s interest rates are already very low (limiting further falls), the $A also has a lower starting point, and today’s budget is notably in the red. At the same time, families have borrowed much more than they had at the time of the GFC, and housing prices have jumped in the meantime.

Compared with the GFC, Australia’s vulnerabilities are now higher, our defences are weaker, and China would be a cause of the problem rather than part of the solution.
So this is a scenario in which unemployment would jump and growth would slump, with that backdrop leading to losses in house prices.

The first half of 2019 would be ground zero, with damage at its maximum:

- With China and trade in trouble, Australia’s terms of trade would be 22% lower than they would otherwise have been, and national income would see a shortfall of 7% – our families, businesses and governments would earn almost $140 billion less than they’d otherwise do in 2019.
- There would be more than half a million fewer people with a job, with a bit more than half of that number swelling the ranks of the unemployed, and the rest taking their bat and ball and dropping out of actively seeking a new job.
- House prices would be 9% lower than they’d otherwise be, knocking $600 billion off the wealth of Australian families (though that wouldn’t be fully felt until late 2020), and the sharemarket would be down by 17%, wiping out a further $300 billion of our wealth.
- That lost wealth would set off a round of reverberations throughout the economy. For example, the rising wealth due to rising house prices helped propel retail sales across a period in Australia in which wage growth was at record lows. But in this scenario, housing wealth would be evaporating at the same time that the purchasing power of wages was being squeezed by a lower $A and higher prices.
- The hardest hit part of the economy? Business investment. Companies spend on adding new capacity and maintaining existing capacity in their plant, equipment, factories, mines and offices. They have to, as future sales are likely to be larger than today’s. But this scenario sees a hit to growth, and companies – many of whom would have idled capacity through this downturn – would therefore temporarily halve their spending on investment.

That would be a challenging scenario. For the average business, late 2018 would see sales some 8% below where they’d be in the absence of this downturn, and profits would be down 19%.

And although the Reserve Bank would do its bit, this is a scenario in which Australia’s over-reliance on borrowing from abroad would come back to bite us:

- The fall in the $A would push up inflation here at home.
- And, most importantly of all, global financial markets – themselves squeezed in such a scenario – would tighten up their lending criteria for heavily indebted nations. Given that Australia’s household debt is gold medal standard, we’d be hit hard by that increase in the cost of credit.
• Yes, the Reserve Bank would try to cut interest rates, but families and businesses borrow from banks, and the banks don’t borrow much from the Reserve Bank – they borrow from world markets. That would leave the actual borrowing rates facing families and businesses no lower (and possibly higher) during the recession than before it. Although much depends on how much liquidity the Reserve pumps into the system in that eventuality, chances are that backdrop would limit the potential defence for Australia from credit costs in this scenario.

So this would be a rotten business cycle. However, given time, the clouds would clear, the sun would shine, and the economy would eventually bounce back, with growth lifting above trend for several years from late 2019, as displaced workers and idled machines were put back to productive use.

Yet both history and economics say that some of the pain of a recession lingers on for years afterwards:
• Businesses won’t have built new factories, offices and shops to the same extent that they would have.
• More than half a million people would miss out on time at a workplace – and the lessons that would bring.
• Accordingly, even a decade and a half after this scenario hit, the economy would be 2% smaller than it would otherwise have been.

**Impacts on Australia – by industry**

Chart 3 sets out – in forensic detail – the extent to which a range of industries would be smaller (most of them) or bigger (a lucky few) in mid-2019, versus where the economy would otherwise have been.

OK, so there’s a bit of detail in this chart, which shows both production and costs relative to where they’d otherwise have been in mid-2019. Let’s look at some of the stories it implies.
Chart 3: Extent to which industry is smaller (or larger) versus baseline as at mid-2019

Source: Deloitte Horizon, China stumbles scenario
Cyclically exposed sectors (including construction, mining, real estate, finance) are hit hard

This is a considerable hit to the Australian economy. And, like any such hit, the sectors most in the firing line would be those that are the most geared towards growth.

Chief among those is construction. After all, growth drives construction, but growth in Australia would be on the back foot if China stumbled amid a global trade war. By 2019, some 200,000 of the 550,000 fewer jobs in the economy – that is, more than a third – would be lost in the construction sector alone. And, as bad as that sounds, activity in the construction sector as a whole would be more than 25% smaller than it would otherwise have been.

By way of comparison, the recession of the early 1990s saw Australia’s construction sector shrink by almost 20%. And although it ‘only’ lost 100,000 jobs back then, employment in the industry has almost doubled since the early 1990s.

Pretty much every element of this sector would be affected:

• **Engineering construction** is affected because mining is monstered (though extra government infrastructure spending – rolled out as a defence against the downturn – helps hold the fort through 2019 and 2020).

• **Housing and commercial construction** will be on the back foot because employment (which drives the building of offices) and retail spending (which drives the construction of shopping malls) are also hit hard, and because jobs are lost and house prices fall – the two classic drivers of a downturn in housing construction.

• Hardest hit of all would be **construction services** – the part of the sector that includes maintenance work (the more discretionary parts of which would be put on the backburner as businesses scrambled to cut costs).

![Chart 4: Extent to which construction output differs from baseline (%)](chart4.png)

Source: Deloitte Horizon, China stumbles scenario
But mining wouldn’t be far behind in the list of biggest losers. China is central to this scenario, and it is central to conditions in mining:

- More than a quarter of the jobs in mining would be lost, with coal miners hardest hit, although total job losses – at 50,000 – would be a fraction of those lost in construction (as mining is a smaller employer).
- Unlike construction, the lower $A would act as a bumper bar, cushioning the blow of this recession for miners. But that’s only a partial offset, because world prices for the likes of iron ore and coal take a beating in this scenario. So whereas mining output would be down by 15% in mid-2019 in this scenario (versus where it would otherwise have been), mining sector revenue (down 24%) and profits (down 39%) would both be hit rather harder than production.

That splay of differences may be seen in Chart 5.

Production and costs largely move in sync, but the hit to revenue is larger because the protection provided by the $A is outweighed by rotten world prices for minerals such as iron ore and coal. And that relatively small wedge between revenues and costs is enough to throw a big spanner in the works for profits.

Within mining, it would be exploration services that feels the most pain, and for much the same reason as construction services – it tends to be at the front of the queue when cost-cutting is urgently called for.

This scenario would see tough times in real estate as well. The overall property services sector includes not just real estate agents, but also the likes of architects, surveyors, those who lease equipment, and those who manage shopping malls. That wider base gives it a degree of protection in a recession with large house price falls – but only a degree. Overall activity would drop by 8% in property services, while profits would be hammered, dropping by around 15%. 

Chart 5: Mining snapshot versus baseline as at mid-2019

Source: Deloitte Horizon, China stumbles scenario
Lastly, the **finance** sector is among the biggest losers too. Growth is a driver of credit – businesses borrow to finance expansion, and so do families. But with profits plunging and house prices falling, that would put the finance sector in harm’s way.

**The average sector sees a loss of jobs of 4.5% by mid-2019, but the finance sector’s job losses are rather larger – though many of them come later.**

By 2021-22, this scenario sees a net loss of jobs of over 9% in the finance sector, with finance sector revenues down by 13%, and its profits down by more than 40% in that year.

So why aren’t lower interest rates a bigger protector of the finance sector? They certainly help – as they do for the wider economy. But as is also true of the wider economy, they soften the blow rather than deflect it. And the assistance is limited anyway. As this scenario sees the $A lurch lower, which results in extra inflation, the RBA may be a little reluctant to lean too hard on the cash rate. And, as noted, world financial markets would be in a tizz anyway, thereby raising the global cost of funds and hence making it harder for the banks to pass any RBA cash rate cuts to their customers.

**Taxpayer funding – a shield of steel?**

Yet not all sectors would see wailing and gnashing of teeth. Governments tend to spend more (and tax less) to ward off the worst effects of a recession. Although most of that money would show up elsewhere in the economy, it would still be enough to ensure that the **public administration sector** would become a bigger share of the Australian economy through this crisis.

**Health care** also tends to dance to its own tune rather than to that of the business cycle. Think of aged care, or of emergency hospital services.

Similarly, there’d be little effect on **education**. Primary and secondary schools would be relatively unaffected, while higher levels of education would get two sources of benefits:

- The drop in the $A would encourage more students from around the world to study in Australia rather than in, say, Singapore, the US or the UK.
- Unemployment would weigh heaviest on the young – partly because they are the ones most likely to be starting out in the workforce at a time when job availability drops far and fast, and partly because many workplaces would lay off workers on a ‘last on, first off’ basis. That combination means that youth unemployment rises much more than unemployment does generally. And, in turn, some of those young adults would choose to stay in education or to return to it.

This group of sectors – those where taxpayer funding is key and some demand is dollar-driven – may be some 1% smaller than they’d otherwise be in this scenario (with tertiary education the least harmed), but that is against the backdrop of an economy which – by mid-2019 – is almost 6.5% smaller.

**Riders in the storm?**

Recessions bring out defence mechanisms – governments spend more money, central banks cut interest rates, and markets cut the currency. Those responses hold different implications for different sectors.

And some – the lucky few – find themselves on the right side of this combination.
For example, this scenario sees the $A drop 15 cents against the $US. So those sectors selling into world markets get a competitive leg up. That doesn’t really help the miners too much, given that they’d be in a world of pain anyway. However, as we mention above, improved currency competitiveness would help out in education.

It would help out even more for tourism, which shows up in the recreational services sector. Yes, much of the globe would be in trouble in this scenario, and the second largest market for tourists headed here – China – would be where the troubles begin.

On the other hand, tourism is a global market, and cost competitiveness is pretty central to the decisions of holiday travellers. Other things being equal, for example, a lower $A would mean that Australia’s sun and surf would pick up visitors at the expense of the likes of Hawaii.

That allows this sector to be bigger in a scenario in which almost all industries are smaller, with output being 1½% larger than it would otherwise have been in 2019.

Yet joy for international tourism doesn’t mean joy for air travel. As the most discretionary part of the wider transport sector, air travel would take an initial hit as businesses in Australia skimped on travel, and families did the same – see Chart 6. As that chart also shows, although that pain would be sharp, it would also be short.

Chart 6: Extent to which transport output differs from baseline (%)
And what’s the go for Australian farmers? After an initial hit – amid the chaos of the upfront impact on trade – farmers too would gain considerably from the tailwinds generated by a lower $A.

Chart 7 is the mirror image of Chart 5, but this time for farmers rather than for miners. Yet the story for farmers is very different than that for miners. This is a world economy in trouble, so farmers produce a little less than before.

Yet their costs fall a bit more than their profits, as lower interest rates and energy prices have an impact. And whereas miners take a notable hit to their prices on world markets, that is much less true for farmers – which allows the lower $A to boost revenues, thereby making a considerable contribution to profits.

To be clear, that is a relative leap in profits. As the farming sector isn’t typically awash in money, it doesn’t take much to go right or wrong for its profits to swing considerably.
Or think of food and grocery retail. Yes, it too would be caught up in this time of troubles, but by selling essentials more than discretionary purchases, this part of retail would have a bit more protection than some others. ‘Big ticket’ consumer items would be put off for another day, as would other types of discretionary spending (such as on restaurants, or Australians taking their holidays overseas).

For the retail sector as a whole, the degree of discretion enabling families to put off buying some things means that the hit to profits would be substantially larger than the average across all sectors (see Chart 8).

The wild card in this last group is manufacturing. The manufacturing sector is always hard hit in recessions – and this time too the global trade squeeze sees manufacturing shrink and lose jobs, with profits in 2018 some 4% lower than they would otherwise have been. But that phase doesn’t last long. This is a downturn that begins in China, with particular aid provided by the boost to currency competitiveness.

By 2019, while most other sectors are taking a bath, manufacturing sector profits could be more than 10% higher.
That said, the story in manufacturing is a particularly diverse one. Chart 9 shows that the smaller parts of the overall manufacturing sector are dancing to a range of different tunes.

Umm, yes, we agree that’s a crowded chart. The simple summary is that:

- There are a bunch of initial losers – those parts of manufacturing linked to mining and/or to construction (think metals manufacturing, or the making of chemicals), or those parts of manufacturing where buying hits the skids in downturns (such as plant and equipment).

- Other parts of manufacturing – everything from food to furniture – are better protected from the drivers of the downturn, and they also get to surf the competitiveness gains generated by a lower Australian dollar, cheaper finance and cheaper workers. And the best off of all? That would be beverages, as Australians drink more in response to this downturn. Cheers.

Or, to put that a different way, Australia’s economy is complicated, and ‘one size fits all’ descriptions about a sector such as manufacturing run the risk of airbrushing out the valuable detail.

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5 Only kidding. The lower $A is the key here. Imports go down and exports go up, meaning there is greater domestic production of beverages.
Impacts on Australia – by state and territory
This scenario saw very large differences in impacts across different sectors. Yet although there’s also a large spread of effects across the states and territories, those gaps are smaller.

That’s for the simple reason that most states have some representation from most sectors, meaning that the state level impacts show less of a spread than do the sectoral outcomes.

Even so, it’s no surprise that states with larger direct exposure to sales to China (such as Western Australia, the Northern Territory and Queensland) would feel pain directly, showing up among the harder hit in Chart 10. The export earnings of these states would fall, which would undercut the motivation for business in investing in new capacity. And confidence may take a more direct hit, with flow-on impacts to housing construction, housing prices and population growth in these states.

The Federal Budget blues
The Federal Budget acts as Australia’s social compact, taxing businesses and workers to pay for subsidies to the young, the old, the sick and the poor.

But there’s more than a Robin Hood role of taxing the rich and supporting the less well-off in play here.

The Budget also acts as a shock absorber for Australians, making good times less good, and bad times less bad.

This scenario focusses on ‘bad times’ as China’s growth drops below 3% for a time. Not surprisingly, the Budget takes body blows from that. The ‘automatic stabilisers’ alone account for a $40 billion worsening in the Budget balance in this scenario in 2019-20.

Chart 10: Job losses by state in 2019 versus baseline

Source: Deloitte Horizon, China stumbles scenario
Yet there’s a surprise addition amid the list of losers, with Victoria also among the hardest hit regions in Australia. That’s because it picks up pain through a range of channels:

- Victoria is central to Australia’s transport, wholesaling, utilities, property and professional services sectors, whose interests are among the worst affected. It also has a relatively larger share of the parts of manufacturing that shrink (such as those linked to mining and/or construction).
- Victoria isn’t a state with much mining, but it does have the headquarters of a bunch of mining operations, and jobs there would feel the blowtorch of this period.
- Victoria also misses out on the winners, having a relatively small share of farming.
- Add in pain in housing prices and in apartment construction, and Victoria’s relative ranking makes sense.

Although Victoria’s pain might be greater than you’d expect, it goes the other way for New South Wales, which ranks as the least affected state. Yes, its stretched property prices make NSW vulnerable, and are a big part of its pain. Yet there’s a degree of protection provided to NSW’s key section, finance, via lower interest rates. And there are some dodged bullets. For example, this isn’t a strong mining state, and much of the construction downturn is linked to mining.

South Australia and Tasmania suffer less from job losses than the national average:

- Both are aided by their bigger-than-average manufacturing and farm industries.
- Both have relatively modest exposure to those sectors facing the biggest downturns in this scenario, including construction, mining, real estate and the finance sector.

The clear relative winner would, however, be the ACT. Again, that’s no surprise – the business of the ACT isn’t business – it is government. And government spending actually rises in the downturn, insulating the ACT from the storm. Add in the particular positive coming from lower interest rates (the ACT has a large mortgage belt), and the nation’s capital doesn’t suffer the pain felt elsewhere.

**Some things to think about:**

How would a China stumble affect your business or sector?

Are there changes you could make now that would alleviate the potential effects?

What other information would be helpful for you to know?
2. Australia surfs
Asia’s third wave

“The major disruptors in India today are the youth, mobiles and broadband.”
Dinesh Malkani, President, Cisco India

This scenario projects continuing growth for China and Asia in general, and considers the related plausible ‘best case’ outcome for the global and Australian economies.

Much has already gone right: Australia’s economy has been a remarkable success story for a long time. As a small nation sitting atop a resource rich continent, we are indeed a Lucky Country, and we’ve always had more growth options than most other nations.

That’s a key reason why, on 1 July 2017, this nation will chalk up the longest run of growth achieved by any nation – at any time – passing the record held by the Netherlands.

And there’s the potential for more of the same in the decades ahead. Australia has prospered partly because we have slipstreamed our sales into the world’s fastest growing markets. And Asia’s great growth of times past isn’t disappearing – it’s merely changing shape.

Chart 11: Pass the Dutchie on the left hand side...

Source: Economic Cycle Research Institute and Deloitte Access Economics
If Asia and Australia outperform over the next two decades

<table>
<thead>
<tr>
<th>Then</th>
<th>This is great news for most businesses in Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give me the headlines</td>
<td>By 2030:</td>
</tr>
<tr>
<td></td>
<td>• Australian economy produces an extra $650 billion</td>
</tr>
<tr>
<td></td>
<td>• More than $800 billion added to national income</td>
</tr>
<tr>
<td></td>
<td>• Employment higher by 1.6%</td>
</tr>
<tr>
<td></td>
<td>• Lift of 5.7% in business investment.</td>
</tr>
<tr>
<td>But</td>
<td>Even if Asia does fly higher, Australia would need to as well, by adopting politically difficult reforms</td>
</tr>
<tr>
<td>Winners’ circle</td>
<td>Banking and wealth management, mining, agribusiness, air travel, gas, retail</td>
</tr>
<tr>
<td>Back of the pack</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Across the states</td>
<td>TAS and SA have particular growth opportunities, QLD outperforms WA. VIC and NSW are middle of the pack. All states benefit.</td>
</tr>
</tbody>
</table>
Why might it happen?
Why might this scenario happen? Perhaps the more obvious question is 'why wouldn't it happen'? After all, much of Australia’s success as an economy is attributable to having surfed a series of waves – a wool boom, a gold boom, a refrigerated beef and mutton boom, and many others.

To today's Australians, the most familiar of these will be the resources boom – the period from 2003 to 2012 – in which Australian incomes slipstreamed the rise of industry in China.

But that boom wasn’t unique. It followed our earlier similar-but-smaller successes in selling into the rise of Japan, and then later into the rise of Asia’s Tigers (Korea, Taiwan, Singapore and Hong Kong).

And there’s more where that came from. The best and brightest future for Australia is essentially more of the same as we ride Asia’s boom to a better future.

That’s a happier outcome than the one factored into our ‘most likely’ forecasts, as these assume there are a few bumps in the road as China tackles a tricky transition and as India struggles to capitalise on its growth momentum of recent years.

If achieved, however, the maturing boom in Asia would see that region’s rising middle-class consumers power a new set of opportunities for Australia, generating a range of potential growth sectors right across our economy.

But wait... there’s more. For this scenario we also assume that Australia powers through some domestic challenges. Much needed reform happens (rather than merely being talked about) and new technologies are capitalised on.

When might this happen?
This is a big scenario, but its effects are slow to build.

We have modelled the dividend from ‘success’ on the global and domestic stages across two full decades.

How likely is it? And how might that happen?
Many of the gains from the continuing rise of Asia are already banked in our baseline forecasts of ‘most likely outcomes’, as laid out in Deloitte Access Economics’ regularly published views in Business Outlook.6

But, as we explained in Part 1, that baseline is focused on what is most likely to occur, and the most likely path will always contain a bunch of bumps in the road.

This scenario is deliberately different, with better global outcomes and domestic developments.

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On the global stage:
- The world shrugs off its current flirtation with populism and protectionism, and marches along a continuing path of openness to trade and technology.
- China transitions smoothly from an economy that’s overly reliant on construction and on debt, and its burgeoning middle classes dominate growth trends in many markets.
- India builds on the growth momentum of recent years and delivers half of the increase in Asia’s potential workforce over the next decade – with those new workers much better trained and skilled than their forebears.

Here at home in Australia:
- We too remain open to trade and technology, and we take full advantage of the dazzling array of investment options available to a small population inhabiting an entire continent.
- We free up our institutions – our tax, regulatory and competition rules and regulations, and our federal/state relations – to enable them to help us prosper.
- That sees us surf Asia’s maturing booms, and taking full advantage of a range of domestic drivers (including the unfolding opportunities for business wrapped up in this nation’s ‘demographic destiny’).

In other words, we are looking here at the potential for generational gains.

Since we produced that report a few years back, firstly, Australia’s exchange rate has fallen faster and by even more than we anticipated back in 2013, while secondly, China’s slowdown has also been bigger and faster than expected. But we still expect four of the key megatrends mentioned in that report to fundamentally reshape the future over the next 20 years, both globally and here at home. They are:
- The changing global stage
- Demographic destiny
- New technologies
- The environment.

These megatrends will deliver both opportunities and challenges to Australia.

In many ways this scenario is simply asking for history to repeat itself. But it would be history on steroids. The siren call of populists – currently dominating the electoral landscape across widely divergent continents – would have to be defeated. Politicians would have to act with courage and determination, and they’d have to rediscover the art of explaining to the voters why standing still (or even winding back the clock) would hurt, whereas the path of reform would deliver dividends.

And both businesses and families would have to lead too. Governments don’t dominate economies – businesses and consumers do. Between them, these groups have to deliver innovation and leadership.

Our third BTLC report Positioning for Prosperity? Catching the next wave (released in late 2013, with added detail in a full release in early 2014) concentrated on those sectors likely to benefit from the twin drivers of ‘what the world will want’ and ‘what Australia is good at’, identifying a full list of 25 sectors projected to outperform their peers over the following two decades.
Impacts on Australia

None of these things would be easy to do. But the gains would be well worth it.

When we first modelled these potential gains back in 2013, we took just a subset – the impact over the next two decades of the rise of Asia on our Fantastic Five sectors of gas, agribusiness, tourism, international education and wealth management. We found that, if we played our cards right as a nation, they could deliver an additional $250 billion of national income over the course of two decades. By the end of that two decade period, the economy was larger by 1%.

A goal worth pursuing? That’s a big yes

This time we’ve deployed our new model of the Australian economy – the one we’ve developed to power the scenarios in Horizon – to estimate the gains across the economy as a whole.

And that wider lens unveils bigger bucks. As before, there are specific sectors whose success is accelerated in such a scenario – the Fantastic Five we identified back in 2013 remain notable winners from optimistic scenarios such as these.

But much of the economy benefits to at least some extent, and we’ve widened the scope to include successes in domestic policy this time.

The resultant overall gain is two and a half times that of our earlier estimates, with the economy 2.5% larger than it would otherwise have been at the end of our two decade horizon.

This scenario would see the Australian economy produce more than an extra $650 billion across the next twenty years. Even better, in an environment in which Asia consistently grew faster, world prices for what Australia sells would be a little higher. That means this scenario would therefore add more than $800 billion – yes, four-fifths of a trillion dollars – to national income across our two decade horizon.8

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7 Horizon methodology – refer to page 72.
8 Those figures are in today’s dollars, taking future net benefits, inflation adjusting them, and then further discounting them by 3% a year.
And those are just the headline figures. In terms of the detail:

- Asia’s success plays Australia’s way on a number of levels. One of them is that success in Asia adds to the prices paid on world markets for key Australian exports – food, energy and minerals – with export prices rising relative to import prices by a handy 3.0% (see Chart 12).
- That bigger pie is shared through the economy. For example, wages lift by 1.8% more than prices do, and employment is higher by 1.6%.
- The lift in both profits and prospects encourages businesses to invest more in future capacity, with the biggest shift in spending being a lift of 5.7% in business investment, though higher interest rates mean that housing construction is no higher than it would otherwise have been.
- But that success also comes with costs attached, including a stronger $A (up by 1.3%) and higher interest rates (with yields on 10 year Commonwealth bonds up by 70 basis points).

Chart 12: Change in key macro variables in two decades under the Asian century scenario

Source: Deloitte Horizon, Asian century scenario
What’s over the horizon? Recognising opportunity in uncertainty

Baseline impacts on Australia – by industry
This scenario finds its way into every nook and cranny of Australia’s industrial landscape. However, much of this scenario is already banked in our ‘most likely’ view of outcomes in Australia over the next couple of decades.  

So it is worth taking a moment to reflect on what the baseline of most likely outcomes looks like, before we then consider the added impact of ‘extra success’ in Asia and here at home.

Global opportunities: higher incomes equal cleaner air, better food, more students, and more travel
Consider the direct impact of the faster rise of Asia, and our first megatrend – the changing global stage. In that world the Fantastic Five remain just as fantastic. Our 2013 findings remain true today, with particular potential available to five sectors – agribusiness, gas, tourism (gaming and non-gaming), international education and the export of wealth management services – to sell into the rise of Asia.

Especially by the mid-2030s, Asia’s maturing boom would see its peoples even more interested in (and willing to pay for) cleaner air. After all, Asia’s continuing rise means better news for that region’s discretionary spending, and there’s a good case to be made that Asia’s key discretionary policy focus will be ensuring that it gets cleaner air. In turn, that says Asia’s rise is good news for Australia’s gas sector, although it is likely (at least in relative terms) to contain less joy for coal miners.

There is similar good news to be had for agribusiness, particularly those farmers who produce protein – think dairy and beef, for example. In fact, the years since our 2013 report was released have seen considerable Asian interest in buying directly into Australian agribusiness operations.

Not only are the economics good, the regulatory hurdles are easing too. Australia and China have signed a free trade agreement that sees tariffs on Australian beef imports into China disappear by 2024.

In addition, greater discretionary income to our north will show up in two linked areas – foreign students and foreign travellers. The markets here are already substantial, and so too are their growth rates. Australia’s tourism-related earnings directly added $45 billion to this nation’s exports in 2016 – up from $33 billion as recently as 2012. And China is set to overtake New Zealand as the largest source of international tourists to Australia, in terms of numbers of visitors. In fact, it is already the largest market in terms of visitor expenditure (and more than 52% of total tourism expenditure is spent by Asian visitors).

Similarly, the top five sources of international students in Australia are all based in Asia and represent half the total Australian market for foreign students.

That’s why Tourism Research Australia projects numbers of international students to grow at 3.8% per year over the next ten years, while numbers of overall inbound tourists are expected to grow at 5.6% per year.

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10 The OECD-FAO sees per capita beef consumption in China lifting by more than 20% over the next decade – no surprise, given that only 1.1% of any income growth is spent on food in the United States, versus 3.4% in China. See http://www.fao.org/3/a-i5778e.pdf
Finally, among this group there’s potential for Australia to sell wealth management services to the region. There’s no doubt that Asia will grow exponentially as a market for these services – partly due to rapidly rising incomes; partly due to accelerated ageing; partly due to our superior industry and product regulation; and partly due to the dangers implicit in property bubbles in parts of Asia (as any resultant pain may see customers from Asia keen to have their investments managed elsewhere).

Australia’s Treasurer, Scott Morrison, recently pointed out to a G20 conference that “From Australia’s perspective, we see huge benefits – huge opportunities – emerging in this [fintech] space. Robo-advice... has the potential to offer financial advice to a wider cross-section of the community. In Australia, businesses are beginning to integrate robo-advice into the retirement savings system to help people engage and prepare more fully for retirement.”

So there are huge opportunities, and they’ll be available in both global and local markets. Yet although the market potential in wealth management is as good as for any other sector we examine, Australia is a pretty high cost base market from which to sell such services into Asia. Accordingly, although the potential is high, so too are the challenges.

A rising global tide for almost all industries – but not for manufacturers

So this is mostly a story of a rising tide – one in which Asia’s additional layers of success lift all boats. Or, to be more exact, almost all boats. Asia’s success means Australia’s success, and in turn our higher incomes and wealth boost a range of service sectors, while the ability to sell more to Asia plays to the special strengths of particular sectors.

However, there will also be sectors that don’t fare as well. As an example, Australian manufacturers don’t readily fit into either bucket of benefit. The rising quantity and price of our sales to Asia means that Australia earns more on world markets, which in turn allows us to buy more from world markets. And we would buy what we usually buy from the rest of the world – manufactured products – thereby eating into the market for local manufacturers.

Sectors that have a date with destiny

The second major megatrend lies with those sectors on the right side of demography. The good news is that some domestic tailwinds will be almost unstoppable.

Australia is ageing, and our demographic destiny will power sectoral trends in the decades ahead, with the number of people over the age of 85 in Australia rising from some 400,000 today to 1 million two decades from now.

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But there’s much more than demography in play here:

- **Health care costs rise faster than other costs** – boosted by new technologies, what we can achieve in health care is moving ahead in leaps and bounds. That is also pushing up costs in this sector faster than in the economy as a whole. In turn, that says revenues in this industry will automatically tend to expand at a relatively rapid rate.

- **Rising incomes make a difference too** – there is a strong desire to spend our discretionary cash on ‘wellness’. It’s no surprise that we have a voracious appetite for a healthy life, and hence also for the new health technologies that are enabling greater longevity and wellbeing.

- **Pressured public sector budgets will open up private sector opportunities** – some 70% of all health care spending is currently footed by taxpayers rather than by patients. That proportion will fall in the decades ahead, because federal and state governments will be under considerable budget pressure. As they wind back their subsidies (or drop out of subsidising some parts of health care altogether), the private sector will take up the resultant slack. Assuming governments focus most of their subsidies and efforts on ‘prevention’, that says private sector opportunities will grow fastest in the ‘cure’ categories of this industry.

To take one simple example, think of diabetes prevention and care. That’s an area in which one more megatrend – the trend towards obesity – will play an additional role. There are already 1.7 million diabetes suffers in Australia, and the years ahead will see huge growth in demand for a range of related conditions.12

As Australians live longer, we are increasingly living with ailments that are not life-threatening, but require more care than otherwise. In turn, that says, while most businesses in Australia can look to a degree of future growth, few can beat the confidence attaching to future growth in health markets.

The likes of **preventive health and wellness, community care and personal services, retirement living and leisure and residential aged care** are all obvious beneficiaries of the intersection of these trends.

And there are related opportunities here too. Similarly, a related set of drivers is good news for sectors such as superannuation (as well as for wealth management sitting outside of superannuation), while movements within younger age groups may power further growth in **private schools**. And yet another area with potential lies in longer life expectancies and longer working lives, generating greater demand for re-skilling.

One final point is worth making: many health care-related businesses achieve an unusual double – they have both good growth and stable revenue flows. It’s usually the case that risk and return are inversely related, meaning the great growth usually comes at the cost of great volatility. But health-related businesses are an exception to that rule.13 This is a ‘steady sector’ – a relative safe harbour in which to ride out the rollercoaster of the business cycle. That’s an additional reason why the business opportunities that they generate are so valuable.

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Surfing new technologies

Third on our list of megatrends, new technologies will create markets and revolutionise some old ones.

Sometimes the resultant growth will be indirect – and seemingly coming from ‘old’ sources of growth such as the mining sector. For example, there are a number of drivers for growing demand of new metals in the tech sector, including the replacement of silicon in semi-conductors, battery storage, fuel cells, advanced aeronautics, imaging systems, and medical devices. Some of the key metals with good demand potential over the next two decades include tantalum (small, high powered capacitors for mobile phones, computers, medical equipment and surgical implants), indium (found in virtually all LCD displays), molybdenum (thin-film transistors, rockets, turbine blades and chemicals), germanium (with similar properties to silicon, and potential in optical applications and high-tech imaging), plus gallium (found in almost all LED products).

More broadly, however, the winners here will be the direct beneficiaries of the great potential demand growth in tech-related markets. The key challenge will be whether Australia wins the race to supply that demand. In some cases these new markets will mostly be serviced by foreign suppliers.

And there is a related argument around the digital delivery of health services. Although the entire world will want to deliver these types of services, Australia has extra incentives to be towards the front of that queue, as we have a sparse and ageing population in rural and remote areas amid a rich nation, and an indigenous population with particular health needs. That backdrop of motive meeting opportunity is one in which prospects look good for the digital delivery of health services.

Finally, although much of the growing demand for ICT and telecommunications may more generally be supplied by imports, such is the breadth of this market that some Australian niches are likely to develop.

Clean and green

The last theme lies in those opportunities arising from the megatrend of the environment as a driver.

As a nation, we will respond to that by spending relatively more of our growing incomes on better environmental outcomes, both for ourselves as individuals, and for the wider community. We will be doing that because we’ll want to. Average incomes will rise in the decades ahead, and we will want better personal and community outcomes.

Yet Australia has clear potential in some key areas. Technologies are winding back the role of bricks and mortar, but products still need to reach consumers at their homes and workplaces. These ‘last mile deliveries’ will, for example, create Australian opportunities for decentralised logistics, including parcel deliveries by drones.  

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In other words, some of the spending here will be voluntary. But a chunk of it will be mandated by governments, looking to achieve a range of aims (cleaner air and water, defence against global warming and the like). Accordingly, those double drivers – voluntary and mandated – mean that we see excellent growth potential in several sectors:

- **Green energy generation and storage**: Although gas may be Australia’s biggest opportunity in this area over the longer term, recent years saw cost curves shift further down in green energy, while new technologies are opening new horizons in generation and storage. To the extent that many opportunities will revolve around residential energy, that locational factor will drive Australian potential.

- **Water and waste management**: As consumer sentiment continues to move towards supporting environmentally sustainable processes, the business incentives for (and returns to) investing in reuse and recycling will inevitably increase. New technologies are also making change possible in these areas. And, importantly, many of these demands will have to be serviced locally (such as how we price, use and reuse water, as well as how we process and reuse waste products).

- **Disaster management and preparedness**: Regardless of climate change, changing patterns of settlement (along the coastline, and towards the hotter parts of the nation) mean that Australians increasingly are ‘putting ourselves in harm’s way’. In turn, that says there will be rising demand to future-proof the population and our built environment through targeted interventions. While there may be uncertainty on who should bear the cost of intervention, there will clearly be a cost.

**Additional impacts on Australia – by industry**

Yet the above merely spells out what we expect to happen anyway.

What if that came with a cherry on top?

This scenario ups the ante of global and local success – Asia does itself proud, with India joining China on an enduring and maturing prosperity path.

And this scenario isn’t just one in which Asia succeeds – it is one in which Australia also shines. Good political leaders here at home encourage the electorate to accept much needed reforms, while strong business leaders and educational institutions and sensible infrastructure decisions over the next two decades see new technologies used more widely and more efficiently than they’d otherwise be.

The greater prosperity flowing from Asia’s success and Australian exceptionalism therefore allow some sectors to shine.

But which ones?
The next two charts show the impact of this scenario by industry – the sectors that win out when Asia and Australia outperform (see Chart 13), as well as those sectors that get left behind amid what is otherwise good news (see Chart 14).

Chart 13: Industry output – winners versus baseline by the 2030s

Source: Deloitte Horizon, Asian century scenario
The winners’ circle contains some familiar faces. Indeed, the **Fantastic Five** broadly become even more fantastic in this view of the future. For example:

- **An additional layer of success in Asia** boosts the components of **agriculture**, as the accelerated tide of prosperity in Asia shows up in an accelerated appetite for protein. Thanks to the ‘dining boom’ laid out in this scenario, farmers can shrug off the headwinds generated by a higher dollar, higher interest rates and higher wages. They are able to do so because those cost-related negatives are swamped by the impact of the rather larger available market to sell into on the global stage – leading to more sales at better prices.

- **You’ll also see air transport** on this list. Even better growth in numbers among Asia’s urban middle class means more people able to afford overseas travel. And, speaking of affordability, air transport is in here because of Australian successes too – higher incomes at home combine with a stronger Australian exchange rate to sweep aside cost-related headwinds (interest rates are a tad higher, while wage costs are up too).

- **There’s a cameo role for oil and gas extraction** in Chart 13 as well. You’ll remember that gas features in our Fantastic Five, and it gets an additional leg up in this scenario because greater success in Asia not merely (1) boosts global energy demand, but also (2) boosts the potential to pay for cleaner energy alternatives.

And there are some other winners worth calling out:

- **This is a happy scenario for miners.** Although growth rates in Asian demand for minerals and energy will tend to ease back in the decades ahead as those economies mature into more service-oriented ones, this scenario is one of success – and some of that success will show up in bigger and better cities, homes and factories. And, in turn, that boost to infrastructure demand means that demand for Australian minerals will lift over and above the gains we already expect it to make.

- **In turn, extra success for miners means extra success for rail and road transport** as well.

- **It’s worth underscoring the relative success of coal miners** here too. Unless coal succeeds in the efforts underway to become cleaner, chances are that the lion’s share of gains in global energy demand in the decades ahead will flow to alternative energy sources such as renewables and gas. But this is a scenario of Asian outperformance, and for India in particular, that will mean a surge in energy demands – part of which will boost coal demand over and above where it would otherwise have been. (See the next page as an example of India’s potential.)
Take India as an example of brilliant future opportunities for Australia

The potential size of economies comes down to three simple factors: the number of potential workers; how many of those workers are in work; and how good they are at their jobs. Or, as the economists would say, economies are ultimately determined by the ‘3Ps’ of population, participation and productivity.

India’s potential workforce today is 860 million people. But that will jump to 1.11 billion people in a quarter of a century, and it will stay close to those levels for a further quarter of a century thereafter. Even more importantly, these new workers will be much better trained and educated than the existing Indian workforce, and there will be rising economic potential coming alongside that thanks to an increased share of women in the workforce, as well as an increased ability to – and interest in – working for longer.

That combination says the big three levers of economic potential – the 3Ps of population, participation and productivity – are all set to surge in India.

In fact, India’s working age population will rise by 125 million people over the next decade – and account for more than half of the 233 million expected across Asia as a whole.

That says India is about to generate business opportunities for Australia in much the same way that China has over the past decade. Is your business ready for that?

The final theme worth noting here is the impact of increased prosperity. With Asia shining and Australia doing the same, incomes are higher, and the same is even more true for wealth. That’s why the winners’ circle includes the likes of:

- Categories reflecting retail spending, including its more discretionary components such as buying new cars and spending more on maintaining them. In turn, that extra spending on cars would combine with the gains in mining to boost the nation’s use of fuel.

- The largest single winner would be the finance sector – incomes are up, and wealth is up even more. That’s music to the ears of the finance sector. But the good news isn’t just domestically-driven: accelerated success in Asia will also boost demand for our wealth management services and provide a tailwind for trade finance as well.
OK, so there are winners – or, to be more exact, they win by even more when Asia and Australia do the same.

But although this is a rising tide both globally and locally, it does leave some stranded sectors, as Chart 14 shows. In particular, manufacturing – already expected to be an underperformer in our baseline Business Outlook forecasts – would fall further off the pace in this scenario.

That is because success in most of the economy leads to some higher cost hurdles that are felt by all sectors. In this scenario each of (1) interest rates, (2) exchange rates and (3) labour costs makes Australia a little less comfortable as a base for manufacturing than we would otherwise be.

The resultant rise in costs and import penetration – combined with the higher $A – means that manufacturers go backwards under this scenario. That is true for equipment, clothing, footwear, chemicals and plastics, building materials, wood and paper products and the like.

And it is even true when upstream elements prosper. For example, the nation’s farmers do well in this scenario as Asia’s markets snap up Australia’s clean and green produce. But, despite having a bigger pool of potential outputs, the nation’s food and beverage manufacturers aren’t able to convert that to greater value being added here at home. In fact, food and beverage also shrink in this scenario relative to where they’d otherwise be.

The same is true for metals manufacturing. Yes, the world may want more steel and aluminium in this scenario, but that steel and aluminium may be less likely to come from Australia.

Accordingly, although this scenario is one in which overall Australian employment in two decades time is 1.6% higher than otherwise, this ‘success scenario’ may be anything but for manufacturers operating in Australia, whose headcount of employees may shrink by 3%.
Additional impacts on Australia – by state and territory

Given the last decade-and-a-half, you might think that an ‘Asia succeeds’ scenario is one in which Australia’s ‘sun belt’ states of Western Australia, Queensland and the Northern Territory would also excel versus other states.

You’d be wrong.

A renewed and sustained resources boom wouldn’t generate solely one-way traffic in terms of state-level winners and losers. As the Reserve Bank liked to point out during the resources boom, the benefits of such booms spread further and faster than you might expect.

Reasons include:

• The impact of our federation in action (with mining states getting a smaller share of GST and other revenues as a result of a mining boom, and with tax cuts financed by any boom in mining applying nationally).

• Ditto Australia’s centralised wage fixation system. Although that isn’t as important as it once was, the national minimum wage would still move in response to resources booms, and it holds across all states and territories.

• Because Western Australia and Queensland don’t get most of their imports from China or Japan or Korea or Germany – they actually get them more from NSW and Victoria.

• Lastly, it is also because Asia’s success would add to Australian incomes, and those higher Australian incomes would tend to be spent on services – with NSW and Victoria again home to much of this nation’s service sector providers.
More importantly still, the spread of benefits also differs here because this scenario is also one of domestic success, rather than solely one of Asian success.

That latter factor plays out in three ways:
1. The service sector strengths of the states of Australia’s south and east are well placed to surf domestic positives.
2. Success encourages people to work for longer.
3. In addition, although ageing presents economic challenges, it also generates business opportunities, and a richer nation would spend more of its earnings on health care and social assistance.

The second and third factors above present particular growth opportunities for the likes of Tasmania and South Australia – the two states that head up the list of winners seen in Chart 15. Tasmania gets additional benefit from its niche food and wine exports, while South Australia sees some of those same positives, as well as success in retail, wholesale and transport more than offsetting the struggles of manufacturing.

Queensland outperforms Western Australia on jobs, but less so on output. In relative terms, employment moves out of Queensland’s mines and toward its retail, wholesale and transport sectors. By way of contrast, WA is held back by the fact that it is underweight in service sectors – particularly so in finance.

Victoria and New South Wales sit in the middle of the pack, with finance and (to a lesser extent) real estate services a key part of the positives for those two states.

Towards the other end of the rankings, the public sector is lead in the ACT’s saddlebags, as most of the good news comes via private sector gains.

Finally, the Northern Territory sees relatively fewer extra jobs, although it does reap the benefits of the boom through its capital intensive industries such as oil and gas.

The end result is that Chart 15 shows the benefits of this boom would fall within a pretty tight spread. You could throw a handkerchief over those differences, and it would adequately cover them. While the phrase ‘a rising tide lifts all boats’ doesn’t perfectly apply across industries, there’s a reasonable case to say that it would apply across all states and territories in this scenario.
Chart 15: Job gains in the mid-2030s versus baseline – by state

Source: Deloitte Horizon, Asian century scenario

**Some things to think about:**

- Is your sector or state one that could benefit from a continuing boom in Asia?
- How can you position yourself to benefit from this potential growth?
- What other information would be helpful for you to know?
3. Australia gets cyber smart – and invests with confidence

“A secure cyberspace provides trust and confidence for individuals, business and the public sector to share ideas and information and to innovate online.”

Malcom Turnbull, Prime Minister of Australia

Fear is costly, it’s catching, and it’s dangerous.

We live in an increasingly digitised world, but the enormous benefits generated by that also bring with them a mounting range of cyber risks. From banks to public utilities and government agencies, the news media regularly report on the latest cyber-attack to hit a major organisation and inconvenience its customers.

Because of this, we tend to fixate on the potential dangers and think of cyber as a big negative. This scenario takes a different approach. Yes, there’s a big escalation in cyber threats in our increasingly digitised world, but this scenario assumes we take action in response to that, rather than deferring progress, and compares what happens if businesses invest and reap the rewards, versus the alternative of exercising greater caution.

We’re all acting more cautiously in the face of so many prominent examples of cyber-attacks (many of which have had large financial impacts, or have been very public and very damaging to the trust of consumers).

That’s understandable, but caution comes with a cost. Digital opportunities and cyber risk go hand in hand. A disproportionate focus on cyber risks therefore comes at the expense of new digital opportunities, meaning that the very technologies with the greatest potential to turbocharge our future prosperity are those that we are often less willing to pursue.

While cyber has been firmly on the business agenda for several years already, it is likely to leap up the priority list soon. Deloitte’s Technology, Media and Telecommunications Predictions 2017 predicts that cyber-attacks such as Distributed Denial-of-Service attacks will become larger in scale, harder to mitigate and more frequent in number.

15 And isn’t yet seen as a binding constraint: the Deloitte 2016 CFO Survey reported that 90% of CFOs would not delay the adoption of new technologies due to cyber risk.
That backdrop means advances that are otherwise good for the digital economy – such as more connected devices, and an increase in upload speeds – are also the very same factors causing the rise in cyber risk. As the World Economic Forum recently noted\(^7\); the prevailing environment of uncertainty and the accompanying pervasive risk aversion surrounding cyber threats are increasingly restricting economic development right around the world.

That’s entirely understandable. In many ways, that makes cyber – and our responses to it – the epitome of the point we are making in this report. Uncertainty generates corrosive costs.

Those costs are built into Deloitte’s ‘most likely’ forecasts for Australia’s economy. But we can and should do better than that. If uncertainty can be reduced, there will be a growth dividend for this nation.

That’s exactly what this scenario considers: what if changing the game on cyber enabled organisations to seize more digital opportunities?

To be clear, while this scenario highlights the costs of being risk-averse, it’s not a recommendation to be complacent either. Indeed, Deloitte’s Technology, Media and Telecommunications Predictions 2017 specifically warns against this. Businesses can avoid the false choice between panic and complacency by sensibly investing in cyber (security, education and resilience) and hence unlocking a new wave of digital investment.

This cyber scenario sees Australian businesses, organisations and families better address cyber risk, thereby freeing themselves to act with confidence, invest in the future and accelerate their growth.

If Australia does the smart thing – investing in cyber

<table>
<thead>
<tr>
<th><strong>Then</strong></th>
<th>That would unlock potentially valuable investments in digital innovation, boosting most businesses</th>
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| **Give me the headlines** | By 2030:  
  - Lift of 5.5% in business investment  
  - Wages up 2.0%  
  - An extra 60,000 people employed  
  - Housing construction down 1.4%. |
| **But** | Like Israel today, we’d need to outperform other nations to achieve this |
| **Winners’ circle** | Sectors that sell cyber smarts |
| **Next in line** | Sectors with the most value ‘cyber value at risk’, including banking, government, health, education and defence |
| **Back of the pack** | Manufacturing, housing investment |
| **Across the states** | NSW, VIC, QLD, ACT standout winners, as home of majority of IT specialists. But indirect impacts mean all states benefit. |
Why might it happen?
We’re good at this.

Australians are well known as enthusiastic early adopters of new technologies. For example, the Productivity Commission’s 2016 report into digital disruption finds that “Australian consumers are noted as fast adopters of new technology”, while Telefonica’s digital survey ranks Australia third in a list of countries that have adopted digitalisation rapidly. Adjusting for the size of the economies in the nations surveyed, Australians have adopted technology faster than the Japanese, the British, and the Germans in how we have used new technologies to change the way we work, the way we communicate, and the way we use our spare time.

Given the focus of the Telefonica report, it is interesting that same study found Australians are the best (out of all the 34 countries examined) at using technology securely and at adopting privacy measures. Against that backdrop, it’s clear that this is a scenario that could occur – as technology enthusiasts and rapid adopters of digitalisation, we know the benefits. Yet it won’t be easy, not least because this is a moving target. The cyber landscape in general, and potential risks around the theft of intellectual property by cyber-attack in particular, are continuing to change relatively rapidly, driven by three important trends:

- The digitisation of everything and constant upgrades to newer technology.
- The connection of everyone/everything to the Internet.
- Expanding business ecosystems where more elements of more value chains are outsourced.

As a result, stealing IP is becoming faster and easier than creating it.  

Take a moment and read that last line again. It’s why 44% of executives named the theft of IP or strategic proprietary information as one of their top three cyber concerns. After all, crime follows opportunity and, with the relevant opportunities increasing exponentially, so too are the related vulnerabilities.

That’s also exactly why cyber risks can have a chilling effect on our willingness to invest in what could otherwise be our most game-changing forms of future capacity.

Cyber costs fall into two categories – those ‘above the surface’ and those ‘below the surface’. Above the surface liabilities include costs associated with telling the customers the bad news, lost customers, as well as legal fees/litigation and other costs. Those costs accrue fairly quickly and are clear to the organisation.

Below the surface of an attack, however, there are less obvious costs. These include losses to a company’s reputation, the impact of operational disruption, the loss of IP, the potential for an increased cost of debt, and the like. Chief among this latter group of costs is the lost confidence of the firm’s own leadership. Once bitten, twice shy; the reduced willingness to take risks gives a free ride to an organisation’s competitors.

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What's over the horizon? Recognising opportunity in uncertainty

Multipled up across a number of companies – both those that have actually been affected and those that fear it – and these costs are big enough to show up at the national level.

A risk for business leaders is believing that cyber is something that happens in the ‘digital economy’, not in their business, and that worrying about cyber can be left to a handful of geeks in ICT departments and businesses. Yet Australia’s digital innovations and digital workforce are already very integrated with the rest of the economy, meaning that all large organisations are already digital. Over half (53%) of Australia’s ICT workforce doesn’t work in ICT businesses – they work elsewhere in professional services, financial services, the public sector and more. That means all businesses have to take cyber risk seriously.23

Let’s be clear here: the current mood of caution isn’t because cyber issues aren’t being considered by today’s leaders. Rather, we are choosing to act cautiously in response to the perceived risks.

But that’s a costly choice. We can equally choose to change the way we approach cyber risk. Acknowledging that it will always be impossible to completely lock down all of our information, adopting a secure, vigilant, and resilient approach to cyber can continue to drive organisational performance in the face of cyber risks.

- Secure: Organisations must continually maintain their foundational security capabilities to protect against threats and to comply with industry cyber standards and regulations.
- Vigilant: Organisations must establish capabilities for detecting cyber violations, and to scan for and anticipate emerging threats so they stay ahead of the game.
- Resilient: Organisations should recognise that no cyber defence can be 100% effective, and so they must develop the ability to respond to inevitable cyber-attacks and return to normal operations as quickly as possible.

When might this happen?

Attitudes and economies are both supertankers – they can’t and don’t change course fast.

This scenario envisages a gradual shift in thinking around cyber security, leading to additional new digital investments being made. The impact on the economy would therefore build over time as new digital technologies are adopted.

In addition, not all businesses would change their behaviour at the same time. If businesses choose to invest, then we expect there would be a number of distinct investment waves. While we recognise individual exceptions, for simplicity, we have chosen to think of this as three waves, as some sectors are currently further along the cyber-readiness curve than others, and also because cyber risks differ across sectors:

- **Early adopters**: Information media and telecommunications, financial and insurance services, electricity, gas, water and waste services, public administration and safety, education and training, health care and social assistance, professional, scientific and technical services, administrative and support services.
- **Middle adopters**: Transport, postal and warehousing, mining, wholesale trade, retail trade.
- **Late adopters**: Manufacturing, agriculture, forestry and fishing, construction, rental, hiring and real estate services, accommodation and food services, arts and recreation services, other services.

So the bottom line is that these impacts wouldn't occur overnight. It would take time before new ways of thinking about cyber and new investments paid off.

But the eventual payoff would be large, and it would grow over time. How do we know that? Because it is future-focused spending that improved cyber intelligence particularly unlocks. Accordingly, the more successful we are at encouraging and increasing cyber-based investment and risk mitigation, the greater the payoff they deliver over time.

In turn, that's why the differences in the economy are rather bigger in twenty years' time than they are in just five years, and why they are still building in size and impact at the twenty-year mark.

**How likely is it? And how might that happen?**

This wouldn't come out of the blue.

Digital disruption is already happening. We have predicted that around two-thirds of industries faced a ‘big bang’ from digital disruption such as a significant shift in key measures like revenue channels.24

Innovative organisations are already seizing the digital opportunities available to them, aiming to ensure that their operations are as cyber smart as they can be.

Deloitte has calculated that the digital economy already contributes $79 billion (or 5.1%) to Australia's economy (as at 2013-14) and is forecast to grow to $139 billion by 2020 (7.3% of national income).25

Those are big bucks. They imply that the digital economy is currently generating one in every ten dollars of national income growth in Australia.

Accordingly, our view of the most likely developments in the Australian economy already includes digital progress to a degree.

What differs in this scenario is that it envisions a rather more fundamental shift in thinking around cyber, which thereby leads to a more widespread adoption of new digital technologies than would otherwise occur.

Our scenario assumes the trigger to this shift is a series of coordinated cyber-attacks occurring around the world in 2018. These are much larger than anything anticipated – possibly very public Distributed Denial-of-Service attacks that cause significant outages, or a huge theft of data or IP that lay sensitive information bare – something big enough to capture attention and knock us off our business-as-usual mindsets.

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Globally, those events reignite conversations within the business community, governments and the public about how to effectively manage cyber, in terms of both resilience and security. Confidence in doing business online takes a beating, leading to public pressure from customers and shareholders for businesses to do something to improve their security.

At this point in our scenario, businesses and governments in Australia have two real choices in response to global developments: sticking with the status quo, or stepping up and becoming cyber smart. This is a scenario in which stepping up on cyber becomes a very real priority for Australian business leaders, who are determined to lead the way on showing that digital investment and cyber resilience are both possible, and in fact, essential.

That’s a plausible outcome, but it isn’t necessarily an easy one. In part that is because ‘success’ here needs a very wide domestic base of action, as well as a competitive leap over other nations.

Or, to put that differently, this isn’t about a few national champions standing out from the pack. It is about Australia standing out from most of the world, and thereby unlocking a greater set of opportunities from new digital technologies than a number of other countries succeed in doing.

Such ‘Australian exceptionalism’ has been seen before. As a people, we have a well-documented enthusiasm for being at the forefront of adopting new technologies.26 And Israel (second only to the US as the world’s largest exporter of cyber products, exporting around US$6billion a year27) shows the potential for cyber defence to successfully morph into digital innovation.28

We now have the opportunity to do the same once more, but with the proviso that we have the courage to make the investments that allow us to leap the cyber hurdles that lie in the way of some of those opportunities.

Impacts on Australia
Rethinking the game on cyber risk would mean that organisations change their approach to cyber security investment. In some cases this would mean an increase in investment in cyber security, but for other organisations it may mean reallocating the existing cyber budget in a different way. For example, for those organisations already relatively comfortable with their cyber security measures, resources could be directed at establishing resilient cyber practices when adopting new technologies.

Across the economy there will be an initial dividend from this changed approach to cyber in the form of a reduced number of disruptive cyber-attacks, which means a reduction in cyber-attack losses and a direct increase in productivity.

But the bigger pay off will be in rethinking the approach to cyber risk associated with new projects. With the confidence that cyber risks will be managed better, there will be a reduction in risk aversion when evaluating new technology and digital projects.

More projects will get the go ahead, and there will be a higher rate of adoption of new technologies.

In turn, there will be:

- Higher levels of capital investment in the Australian economy.
- Higher productivity growth resulting from those investments.

These two channels result in higher output across most sectors. The benefits spread across the economy as consumers and business generate additional income, which is spent across businesses other sectors.

Chart 16: Change in key macro variables in two decades under the cyber scenario

Source: Deloitte Horizon, Cyber scenario
At the end of the two decade horizon, this scenario sees a range of impacts:

- Within the overall impacts on the economy, the largest relative gains are in investment by businesses in future productive capacity (see Chart 16).
- As the lift in wages demonstrates, there are also excellent gains in the purchasing power of ordinary Australians (albeit not quite as good as it initially looks, because the stronger economy also raises consumer prices – the CPI – a little).
- There would be a stronger exchange rate, because the Australian economy becomes more successful (and hence more highly valued) relative to other economies. That stronger exchange rate is also one of the reasons why purchasing power lifts over and above the gains in wages.
- Our greater investment spending as a nation also moves us up the value added chain – relatively more intellectual property, relatively less ‘rocks and crops’. In turn, that switch boosts our terms of trade – export prices relative to import prices – and is another factor boosting the $A.
- This economic good news shows up not merely as higher living standards across the nation as a whole, but also – within that – a gain in the number of people employed (close to an extra 60,000 people) plus a related fall in the number of unemployed.

- Interestingly, because improved cyber security leads to higher returns to a range of business opportunities, it also means that the returns to an old favourite – spending money on a better home – begins to look relatively less attractive in this scenario. That’s no surprise: for Australians, investing in their homes has been a safe bet. However this scenario is all about making entrepreneurial flair less risky for corporates than it would otherwise be. Hence whereas business investment spending is the ‘biggest winner’ to be found in the macro outcomes shown in Chart 16, housing investment loses some shine in this scenario.

For those of you keeping score at home, the potential payoff to doing this right is around half of the gains on offer from the ‘Asian century’ scenario examined previously: the nation produces more, and the lift in national income is larger still.

But, whereas the previous scenario saw widely-based gains in both foreign and home markets, this scenario is much more specific in its levers and impacts.

**Impacts on Australia – by industry**

So let’s take a look at those in the winners’ circle.

**Direct beneficiaries – the ‘cyber sectors’ themselves – group one**

Chart 17 shows how much bigger revenue is if we lift the cyber game.
Chart 17: Cyber scenario gains in revenue by the mid-2030s versus baseline

Source: Deloitte Horizon, Cyber scenario
There are upfront winners here because cyber resilience involves on particular sectors. Accordingly, the IT industry and related sectors will be directly affected via increased demand for cyber security services, as well as being called upon to facilitate the adoption of new digital technologies.

That is why the winners’ circle is headed up by the following list of sectors:

- **Professional, scientific and technical services** (and its parent grouping, the wider professional services sector)
- **Computer system design**
- **Other media and telecommunications**
- **IT and communication**
- **Telecommunications**
- **Internet services**.

No surprises there. This group – which we’ve coloured teal in Chart 17 – houses those who’d be front and centre in (1) improving the cyber defences of Australian organisations and (2) implementing the digital innovations whose benefits would suddenly outweigh their costs in a more cyber smart environment.

**Those sectors with a higher ‘cyber value at risk’ – group 2**

The next group of successful sectors – those benefiting relatively more in this scenario – are those industries that face relatively higher cyber risks. The World Economic Forum identifies sectors with a higher cyber value at risk as the tech sector, the public sector (including health care and defence), banking, business services and the utilities.29 We’ve also added the education sector to the mix.

Having more cyber value at risk is a mixed blessing – it says that building better cyber defences will cost these sectors more in the first place, but also that the benefits of doing so are bigger as well.

And the results here do show that the benefits outweigh the costs. We’ve coloured this grouping light grey and, as a generalisation, it is the key beneficiary group outside of those sectors that directly sell digital transformation and cyber services.

**Those sectors on the wrong side of interest rates, exchange rates and wages – group 3**

Yet to be identified by the World Economic Forum as a potential beneficiary – as is true of the utilities – doesn’t mean that you’re home and hosed.

That shouldn’t be a surprise. Although better cyber security is indeed a direct benefit to the public sector (and related industries such as defence, health care and education), both the utilities and agriculture (black in the chart) are on the wrong side of these circumstances.

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The villain in this instance is the ‘smarter and more successful’ Australia generated off the back of increased cyber intelligence and increased digital investment.

A more successful Australia has higher interest and exchange rates, as well as higher wages. That combination is a triple hit to the cost structures facing the likes of both farmers and manufacturers. The products that those sectors generate – everything from wheat to tapware for bathrooms – are widely and openly traded on world markets, meaning that it doesn’t take much of a cost impact to throw them off their stride.

In turn, that hit to farmers is why the Australia-wide success of the nation in this scenario comes with a sting in its tail that leaves agriculture (and its component parts) worse off.

Ditto the utilities, though the chain of unfortunate events there is longer. This is a scenario in which manufacturers operating in Australia get hit by the same troubles facing farmers. That is, both interest rates and exchange rates move higher, and wages do too, and that’s a particularly toxic cocktail for manufacturing. And it is manufacturers who generate much of the additional demand for the utilities – power and water and gas and the like. So the negatives generated for manufacturers in this scenario bite the utilities as well, more than blunting the direct benefits that the manufacturing sector would gain from greater cyber security. Similarly, different sectors are positioned to benefit in different ways from the adoption of new technologies.

**Those sectors benefiting from higher incomes**

Would you spend more at the shops if Australia was successful in improving the way it deals with cyber risks? Or perhaps buy a car more regularly? Or what about the likelihood – or otherwise – that you’d be talking more to real estate agents?

Such possibilities may not be particularly front of mind. However, believe it or not, they would indeed drive sectoral success in a cyber scenario.

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30 That is, success in some areas of an economy can have indirect harm to other areas. For example, the discovery of gas in the North Sea led to the same trio of effects – higher exchange and interest rates, and higher wages. The resultant harm to some other sectors of the economy of the Netherlands became known as ‘the Dutch disease’.
The missing connection here is that this scenario boosts the prosperity of ordinary Australians. And they’d do something with that extra cash. That’s why the top end of the sectoral listing in Chart 17 is filled with industries that are geared to spending by consumers – spending in shops, on cars, on buying and selling homes and the like:

- Other retailing
- Real estate services
- Retail trade
- Property services
- Road transport
- Motor vehicle wholesaling
- Machinery and equipment wholesaling
- Wholesale trade
- Other transport and storage.

And the rest – group 4
There is a range of factors in play for the sectors listed here. For example:

- All of these sectors have some indirect exposure to cyber risk and some degree of benefit from the adoption of new technologies. Those that have a relatively lower cyber value at risk include arts and recreation and wholesalers.
- Sectors that have relatively less potential benefit from new digital technologies include arts and recreation and parts of agriculture. However, these sectors will still be affected indirectly by the larger changes occurring in other industries, which will have impacts throughout the economy.

The upshot is that the Australian economy as a whole is a net beneficiary of improved cyber intelligence.

Impacts on Australia – by state and territory
Given the relatively high representation of information technology specialists in New South Wales, Victoria, Queensland and the ACT, those jurisdictions are the standout beneficiaries of the extra investment spending shaken loose by a better cyber culture.

Public sector benefits are a key part of the story in the ACT, where job gains are strong relative to the Asian boom scenario.

Yet although those particular regions do best, the rather more striking characteristic of Chart 18 is how tightly banded the benefits are from this scenario. That’s because although there is some direct benefit to specific regions – thanks to high concentrations of IT professionals in their employment base – the dominant driver of gains is the indirect impact across a range of sectors, leaving all states and territories with relatively consistently sized benefits.

For example, South Australia’s benefits come via selling into the investment boom, rather than through cyber dominance in that state, while Western Australia’s relatively modest strengths in service sectors acts as a relative anchor in this scenario.
Some things to think about:
Is caution around cyber risk holding you or your sector back?
Are you aware of the opportunities that embracing digital investment could bring?
What other information would be helpful for you to know?
Part 3: Be prepared – equipping your business to recognise opportunity in uncertainty

Turn uncertainty from an inhibitor of progress to a catalyst for growth
What’s over the horizon? Recognising opportunity in uncertainty

“Be prepared.”
Baron Robert Baden-Powell, founder of the Scouting movement

Key takeaways for navigating uncertainty

There’s more at stake than ever before: Rising uncertainty means that change can arrive faster, and that its consequences can be more unexpected. In turn, that says the value of thinking about plausible futures has risen a lot.

But we’re in the same old rut: Despite that, most organisations haven’t really changed the depth, frequency or methods of how they think about what may come next.

Fight uncertainty with information about the future: The future may be uncertain, but it isn’t entirely unknown. The better the information you can bring to bear, the smarter your strategy can be. Scenario planning is one way to get better information.

Use this improved information to test your strategy: It makes sense to test your existing strategy against a range of plausible outcomes.

And to build an advantaged portfolio: Take the results from your tests to better understand how your existing strategy can be changed to be more adaptable, more resilient, and more future-proofed.

Look beyond everything you already know that might have an effect on your business. You’re already focused on these things. Think instead about how you deal with the situations you don’t even know exist yet. This is where true uncertainty lies.

Practical steps for developing strategies to ensure your business can navigate uncertainty

Uncertainty is nothing new. But when combined with its more recently arrived stablemates – hyperconnectivity, disruption, globalisation and the increased speed of, well, everything – it can stifle creativity and innovation. In addition, as we showed in Part 1, it’s affecting investment.

Leaders are unsure how to move forward. They’re looking for ways to stress-test their strategies, foresee the impacts of disruption and prepare their business for the future. They want the best way to seize the opportunities available among all this change.
How scenarios can help you to operate and flourish through uncertainty

To prosper, we have to overcome our natural instincts for caution. Having the right information, especially about future possibilities, is critical for this to happen.

The three scenarios in this report highlight the range of future-shaping factors that need to be considered when setting strategy. Good strategy requires good information.

So if you want to dispel uncertainty and turn it to your advantage, you need better information. That’s exactly what scenario-based planning can do for you.

We’ll use this section to help you determine where to start in trying to make sense of rapid change, and how to set a strategy for your organisation that will take advantage of the opportunities to be gained.

In short, we’ll look at how you can navigate and leverage these uncertainties to drive competitive advantage – or, better still, to create a disruptive advantage.

Uncertainty isn’t absolute, even over the longer term. Boundaries can be imposed. Market and competitive uncertainties can be identified, considered, analysed and used to inform the choices you make in developing your strategies.

Leaders should use scenarios, like the three outlined in this report, to help explore ranges of uncertainty, drivers of change, and response strategies that might best position your company.

Why scenarios?
Organisations can use scenarios to generate and prioritise actions, policies and strategies.

Think of scenarios as a wind tunnel, similar to wind tunnels used to stress test aircraft. As you test aircraft in the wind tunnel, you may see that under certain conditions (scenarios) they perform well, but the wings come off in other scenarios.

It is best to know which way the wind may be blowing before your organisation takes flight into the future.
Scenarios can help organisations be better at:

- Creating a sustainable long-term strategy
- Continuously adapting and innovating in anticipation of market volatility
- Being resilient and building an advantaged portfolio
- Creating alignment across stakeholders to a shared vision and strategy for the business.

1. Scenario planning to create long-term strategy

How can you be several steps ahead of your competitors? Here’s how:
1. Think about ‘what comes next’ to a greater extent than they do.
2. Follow through by identifying the strategic implications of different-but-plausible futures.
3. Take time out from day-to-day management to scan the horizon.

Giving your organisation competitive advantage in what is now a more volatile, uncertain, competitive and ambiguous world requires leaders to explore a range of probable future scenarios, evaluate options and make explicit choices on ‘how to win’ in the most plausible scenario.

What is good strategy?

We define strategy as an integrated set of choices which positions the organisation in its industry to create sustainable advantage relative to its competitors, and thereby deliver superior financial returns.

A fully developed strategy will describe clear choices around a firm’s goals and aspirations, where it will play (which markets, customers, channels, value chain), how it will win in chosen markets (its value proposition, products/services/profit model), how it will configure (for example, its organisational capabilities and operating model) and what priority initiatives are required to achieve those choices.

A winning strategy must be sustainable and have the buy-in across the leadership and organisation.

The best strategies are those that are coherent, aligned and where all choices are mutually reinforcing.
Leaders also need to determine the contingent investments to make should another scenario start to play out. Most organisations are comfortable hedging against a few uncertainties (such as interest rates, exchange rates, or fuel prices). However, having a sustainable long-term strategy requires explicit consideration of the major known uncertainties in order to analyse and select the most suitable set of actions to enable competitive differentiation.

Your organisation’s strategy needs to be geared to your most likely outcomes, albeit with a focus on ‘risk adjusted likelihood’ – or, as the Reserve Bank of Australia would describe it, of adopting ‘the policy of least regret’.31

Say the most likely outcome is steady growth, but the alternative of a harsh recession has a 1% chance of occurring in the first scenario, but a 49% chance of occurring in the second scenario. Then chances are your organisation’s strategy should be different in the second scenario.

In other words, the most likely outcome isn’t a single scenario, but a picture of the future determined by the different weights you give to different scenarios.

By using scenarios to expose the range of uncertainty likely to affect the business, leaders can answer some key questions:

• Is our current strategy a ‘winning strategy’ across a range of plausible scenarios? If not, why not, and ‘what would need to be true’ for the strategy to be winning?
• Where is our business most vulnerable to market situations highlighted in the scenarios, and what changes would need to be made to mitigate the vulnerabilities?
• What aspects of our existing strategy should we keep under review? What elements are we more confident about?
• Should we delay taking action until further clarity emerges? Should we commit to a certain course of action for now and have contingencies developed, in the event that certain identified triggers or signposts emerge?
• Are the most plausible scenarios so open that we should look to create disruptive advantage and re-shape our organisation’s future?

What’s over the horizon? Recognising opportunity in uncertainty

Fundamental to the sustainability of an organisation’s long-term strategy is whether uncertainty is embraced within the strategy, rather than built despite it.

Put another way, if your strategy is designed based on the choices that drive ‘success’ in each of the plausible scenarios, it will largely remain valid regardless of which future unfolds.

Scenario planning can also help organisations see a set of both risks and opportunities more broadly and to spot potential sources of risk that may not surface in other ways. Scenario planning can also address the cognitive biases that impede the risk/strategy discussion and offer alternative paths for when risks materialise.³²

Leaders must consider how to build optionality into their organisation based on the implications of each scenario across five key areas of the business:

1. **The portfolio mix** – should you be buying or selling parts of your business?
2. **How you allocate resources** – where do your investments in dollars and people need to concentrate to position you best for possible futures?
3. **The innovation horizon** – what are the game changing scenarios, and how are you tracking the trends?
4. **Competency advantages** – what is your organisation best at, and can it capitalise further on those strengths under different scenarios?
5. **Structural advantages** – what do you have that competitors don’t, and do those advantages strengthen or dissipate across different scenarios?

Our scenarios, practically applied. What If?

The three scenarios in this report share a common theme of disruption driven by the likes of economic, regulatory and demographic shifts, political instability, technological advances, environmental concerns and rapidly evolving and innovative business models.

Take the scenario of *China tips Australia into a recession*. That would have huge repercussions, many of which would last for years. How might an organisation position for competitive advantage in this environment and how can you take advantage of this disruption and uncertainty?

Use scenario-planning to create strategic options for your organisation across five key areas

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Implications</th>
</tr>
</thead>
</table>
| 1. China tips Australia into a recession – hitting our housing | The implications for how each scenario impacts your organisation’s external environment (e.g. industry, geographic region etc.) must be distilled – for example:  
  - Influx of highly skilled workers from Asia  
  - Internet-related services growth  
  - Increased environmental concerns from new technology  
  - Spend moves from public to private sector  
  - Manufacturing goes backwards due to higher Australia dollar  
  - Decentralised logistics and getting the ‘last mile’ right. |
| 2. Australia surfs Asia’s third wave |  |
| 3. Australia gets cyber smart – and invests with confidence |  |

Example strategic options

- **Portfolio mix**
  - Increase exposure to higher growth markets by organically shifting internal resources:
    - Focus investment dollars to higher growth areas
    - Deploy top talent into growth business units
    - Invest in transformational innovation.

- **Resource allocation**
  - Drive superior sensing of growth pockets within sectors:
    - Enhance tracking of market dynamics
    - Continuously assess strategic risks.

- **Opportunity radar**
  - Gain superior operating advantages:
    - Better recruitment, motivation and retention
    - Incremental innovation within business
    - Institutionalisation of superior practices
    - Ability to tap into third parties/partnerships.

- **Competency advantage**
  - Secure positional advantage that is hardwired, exclusive or difficult to imitate:
    - Superior location and context e.g. climate
    - Physical assets, or exclusive access rights
    - Intangible assets e.g. intellectual property
    - Special networks and privileged relationships.

- **Structural advantage**
  - Deliberately raise growth rate through:
    - Mergers and acquisitions in high-growth sectors
    - Alliances and joint ventures
    - Active divestments in slower-growth sectors.
2. Scenario planning for continuous adaptation and innovation

Being an adaptive organisation is central to having competitive advantage. Adaptive means being able to quickly adjust your strategy and reallocate resources to either proactively position for or respond to disruption.

In fact, adaptability is becoming one of the most critical traits of successful organisations, particularly as the business environment becomes more volatile. A study of 200 organisations found that adaptable organisations in a competitive environment will consistently outperform those that are rigid, in either their strategic choices, their business model or their organisational structures.

All organisations face a future of uncertainty. Those that continually adapt to new disruptive forces and sense, shape, and seize on new possibilities will become tomorrow’s leaders.

It wasn’t that long ago when organisations could comfortably operate using strategic planning cycles that often stretched over three, five or even ten year horizons, and would be satisfied with new products or business models being implemented over a matter of years.

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Not only is this no longer accepted practice, it is a recipe for extinction. Depending on the industry, business leaders now have months – or even weeks – to create and capture value across their constantly evolving and disrupted business portfolio.

For incumbents, the first, overriding obstacles are lack of urgency and internal resistance to change. By the time the leadership feels fully confident of a disruption, it may already be too late to react.

Deloitte University Press

Speed is of the essence. The most adaptable organisations have the shortest interval between identifying a material shift in the external environment and implementing a change and realising the target outcome.

When speed and adaptability are crucial, doing your scenario planning every three years, or even yearly as part of the planning cycle, just doesn’t cut it. Businesses increasingly need to have embedded ‘always-on’ scenario planning and analysis capability. This allows an organisation to create competitive differentiation through more timely and informed decisions, and provides the necessary insight to inform innovations, investments and the allocation of resources.

The research, modelling and analysis that goes into both developing and maintaining scenarios are what underpin adaptive organisations. Continuously scanning the horizon to identify trends, triggers of potential disruption, competitive threats and growth opportunities needs to be regular.

To gain and maintain advantage, you now need to think deeply through what may happen next, anticipating potential responses and formulating strategies.

3. Scenario planning for resiliency and advantaged portfolios

One of the central objectives of strategy is for leaders to think holistically about a company’s portfolio of businesses. Doing this allows leaders to plan and execute ways to make the aggregate value of a company’s holdings durable over time, and greater than the sum of its parts.

This vital responsibility comprises two central questions:

• Which businesses should we participate in?
• How do we create value within and across our businesses?

The most successful portfolios exhibit three broad characteristics: they are strategically sound, value-creating, and resilient. Yet companies seldom achieve all three, because doing so requires leaders to carefully consider and test their portfolio across a wide range of attributes, which is highly complex.

34 John Seely Brown, John Hagel, Andrew de Maar, Maggie Wooll, Approaching disruption – Charting a course for new growth and performance at the edge and beyond (Deloitte University Press, 5 October 2016).
The use of scenario analysis is essential to evaluating whether or not your portfolio will give you a competitively advantaged position in the market. Not surprisingly, developing an advantaged portfolio is more about creativity and optimisation than it is about applying a straight calculation or logical algorithm. It requires evaluating a range of options through a wide array of lenses, as well as analysing both individual business and total portfolio effects.

Scenario analysis enables leaders to evaluate their business portfolio using criteria tailored to the market and environment in which the business operates. Scenarios provide multiple and alternative vantage points to both test the sustainability of individual business unit strategies and assess the resilience of the full portfolio.

Advantaged portfolios first and foremost must be:

1. **Strategically sound**: They must foster a strong competitive position, support multiple levels of innovation, and create synergy so that the value of the portfolio is greater than the sum of the parts. The portfolio meets these criteria if it is competitively positioned, balances innovation and creates synergies.

2. **Value-creating**: An advantaged portfolio creates more value than alternative portfolio options. Value-creating portfolios maximise their intrinsic value, address market value and find the right owner.

3. **Resilient**: Leaders too often overlook matters of risk and resilience when evaluating corporate strategy and the corporate portfolio. Resilient portfolios can survive a variety of scenarios, provide options for the business and allow leaders to weigh up feasibility versus risk.

Companies are increasingly using scenarios to stress-test the performance and risk of individual businesses and portfolios overall. Scenarios detail coherent stories about how the relevant business environment might evolve very differently over a medium to longer-term future. These scenarios can effectively illustrate the potential consequences for industry dynamics and boundaries, customer interactions, or winning business models.

To effectively test the resilience of a portfolio, a company should create a number of scenarios and portfolio options, and then evaluate the likely value of the options under each scenario.
What's over the horizon? Recognising opportunity in uncertainty

4. Scenario planning for creating alignment and focus across stakeholders

Scenarios also play a creative role, helping companies and leadership create alignment across internal and external stakeholders to the aspiration and choices of the business.

Scenario planning has always been used to break the bad habit of assuming that the future will look much like the present. It can illustrate the hard-to-grasp consequences of things like major disruption or rapid technological advances.

Scenarios also provide the additional benefit of significant organisational learning and collaboration. Scenario planning can be conducted within an executive team itself, as well as within the broader leadership and (even better) across the entire organisation.

“...The scenarios generated corporate-wide awareness of the challenges and opportunities in a rapidly changing business environment...”

Head of Strategy, Major Energy Company

Organisations that would benefit significantly from achieving external alignment and buy-in to strategic decisions (such as government agencies) often have a wide range of external stakeholders. Scenario planning can help those stakeholders understand the external factors and uncertainties that affect an organisation. This in turn can help with getting buy-in to choices the organisations makes to succeed under those influences (the corporate strategy).

Furthermore, a successful scenario planning process will challenge the pre-conceived assumptions of the participants about what the future may hold, and about the organisation itself, helping to reveal a deeper understanding of its environment and the motivations for its choices.
Introducing Deloitte Horizon
Improve your line of sight
Methodology

The scenario detail in this issue of Deloitte’s *Building the Lucky Country* series has drawn on two strengths – our new economic model, and our experts. We’re calling our new model *Horizon*.

**The Horizon model**

Economic models usually either aim to be good at forecasting the economy and its component regions and industries, or they aim to be good at answering ‘what if’ questions.

Our new *Horizon* model has been developed to marry these two strengths in one model. A strong forecasting capability to explore the ‘most likely’ view of business conditions ahead, has been wedded to the ability to supply detailed answers to a wide range of ‘what if’ questions:

- Built with ‘what if’ in mind, this model provides a robust approach to measuring scenarios, including how governments and the Reserve Bank of Australia may respond
- It is founded on expert analysis of real world data, meaning that it learns from the lessons of the past in helping to understand what may happen in the future
- Its forecasting strengths mean that it tells you not merely what may eventually happen – but how things will change (think interest and exchange rates, or wages and unemployment) along the way there
- It has rich industry and state detail to make scenario results more relevant to specific sectors and places
- It includes projections of profits, revenues and costs – by sector – to make scenario outputs more directly relevant for business planning.

The core of the *Horizon* model looks at what has happened in the past to better understand potential futures. It estimates a detailed set of equations to represent the way in which households, businesses, and governments all undertake actions in three key markets – the product market, the job market, and financial markets.

These relationships drive forecasts for hundreds of economic indicators under alternative scenarios over the next two decades – with the results in Chart 12 (back on page 32) representing just a small subset of the many variables available at the national level.

Not only does the *Horizon* model combine the respective strengths of forecasting and scenario capability, but it also provides a level of state and industry detail that goes well beyond the scope of traditional forecasting models. Industries are embedded at the core of the model, and further detail is driven by relationships between industries and national aggregates to drive a rich set of indicators of industry conditions.

**Contact us at** [Horizon@deloitte.com.au](mailto:Horizon@deloitte.com.au)
Table 1 below provides a list of the detailed industry sectors already included in the *Horizon* model, with additional sectoral detail to be added in the future.

**Table 1: The industry coverage of the *Horizon* model**

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Water and waste services</th>
<th>Rail transport</th>
<th>Defence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>Building construction</td>
<td>Air transport</td>
<td>Public order, safety and regulation</td>
</tr>
<tr>
<td>Coal mining</td>
<td>Engineering construction</td>
<td>Other transport</td>
<td>Preschool and school education</td>
</tr>
<tr>
<td>Oil and gas extraction</td>
<td>Construction services</td>
<td>Telecommunications</td>
<td>Tertiary education</td>
</tr>
<tr>
<td>Metal ore mining</td>
<td>Machinery and equipment wholesaling</td>
<td>Internet services</td>
<td>Adult, community and other education</td>
</tr>
<tr>
<td>Other mining and exploration</td>
<td>Motor vehicle wholesaling</td>
<td>Other media and telecommunications</td>
<td>Hospitals</td>
</tr>
<tr>
<td>Food and beverage manufacturing</td>
<td>Grocery product wholesaling</td>
<td>Finance</td>
<td>Medical and other health care services</td>
</tr>
<tr>
<td>Textile clothing and footwear manufacturing</td>
<td>Other wholesaling</td>
<td>Insurance and wealth management</td>
<td>Aged care and social assistance</td>
</tr>
<tr>
<td>Wood, furniture, pulp and printing manufacturing</td>
<td>Motor vehicle wholesaling</td>
<td>Other rental services</td>
<td>Sports and recreation</td>
</tr>
<tr>
<td>Chemical products manufacturing</td>
<td>Fuel retailing</td>
<td>Real estate services</td>
<td>Gambling activities</td>
</tr>
<tr>
<td>Non-metallic mineral product manufacturing</td>
<td>Food retailing</td>
<td>Professional, scientific and technical services</td>
<td>Other arts and recreation</td>
</tr>
<tr>
<td>Metals manufacturing</td>
<td>Other retailing</td>
<td>Computer system design</td>
<td>Other services</td>
</tr>
<tr>
<td>Machinery and equipment manufacturing</td>
<td>Accommodation</td>
<td>Employment, travel and other administrative services</td>
<td></td>
</tr>
<tr>
<td>Electricity supply</td>
<td>Food and beverage services</td>
<td>Building cleaning and support services</td>
<td></td>
</tr>
<tr>
<td>Gas supply</td>
<td>Road transport</td>
<td>Public administration</td>
<td></td>
</tr>
</tbody>
</table>

Source: Deloitte Horizon
As Chart 3 (on page 17) shows, scenario impacts differ across each of these detailed sectors, with each having specific equations determining output, employment and prices based on developments across the economy as a whole.

And in addition to covering more industries than we have ever done before, the Horizon model also covers industries in more detail than our macro models have previously done.

For example, the model produces projections of costs, revenues and profits for each industry. That means the insights offered by the model are much more in-depth.

Finally, and as Chart 10 (on page 25) shows, Horizon also provides insights at the state and territory level, including by modelling some key parts of the economy (such as housing) in full detail at the state level.

**Making full use of our experts**

Models are magnificent, not omnipotent. They can’t do everything.

Our new Horizon model allows an in-depth examination of many issues. But, in this report, our examination of those issues has depended just as crucially on the input of our experts. They’ve added their insight and experience to the rigour and analytics coming from the modelling results, leaving the final product much the better than if we hadn’t stood on the shoulders of that expertise.

For example, the cyber scenario in this edition of *Building the Lucky Country* drew on the expertise of a range of our Deloitte experts. That group challenged the modelling team to go beyond the current way of thinking about cyber security and to imagine a future Australia where both the public and the private sector begin to invest jointly in digital innovation and invention with cyber intelligence investment.

The experts explained that investing in cyber resiliency would unlock digital investment, thereby allowing business, governments and families to be safe while taking on more risk than they do at present, while also reducing the cost of successful cyber-attacks.

A range of research also provided insight and useful anchor points for the assumptions inputted into the Horizon model, such as the joint Deloitte and World Economic Forum report which estimated the size of ‘value at risk’ from cyber threats by industry, while a number of other sources (including Deloitte’s CFO surveys) provided guidance around the current thinking of business leaders around cyber and investment.

And, in turn, the model provided insights back to the experts. For example, some sectors that the experts expected to be big winners from greater cyber security and increased investment in digital innovation did indeed win out on those fronts – but were also affected by the increases in exchange and interest rates and in wages that accompanied the Australian economy’s broad success in cyber.

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**What Horizon can do**

*Horizon* marks a first – Deloitte has ‘industrialised’ strategic scenario analysis by providing a range of scenarios for the future, covering economic, technological and regulatory outcomes, and flowing those through to detailed views across 56 industries and eight states and territories.

That process means that, at any given time, we have three million data points of detail as to how the future may play out, giving you the chance to decide for yourselves what is more or less likely as you set future strategies, assess strategic risks, buy or sell major assets and the like.

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So what are some examples of what this new class of model can do?

Potential scenarios might focus on possible developments within the world economy. For example, think of:

- What might happen here in Australia to our economy, wages, prices, interest and exchange rates, industries and states, profits and job markets if Asia’s middle class meets its potential over the next two decades? That’s part of the ‘Asian century’ scenario covered in Chapter 2 of Part II of this issue.
- Or what if China stumbles? Again, that is in this issue, at Chapter 1 of Part II.
- Or what if the globe is stuck in a low growth/low interest rate environment, with that ‘secular stagnation’ scenario meaning that growth potential falls shy of that expected for most business operating in Australia – and with that growth shortfall lingering over the longer term?
- Or how would Australia fare if a new international financial crisis hit, leading to another global credit squeeze that saw our nation – a big borrower – caught short by global financial market turmoil?
Similarly, some potential scenarios might focus on possible developments within the Australian economy. For example, think of:

- What would happen if Australia were to embrace a reform agenda? That forms the other half of the 'Asian century' scenario covered in Chapter 2 of Part II of this issue.

- Or what if Australia's already stretched housing prices were to take a tumble? How would that play through the rest of the economy – sector-by-sector?

- Or what if continuing growth in housing loans and gridlock in Canberra meant that we lost our AAA credit rating? Would that be big news for business, or just some hairy headlines for a month?

Some potential scenarios might focus on possible developments in the rules and regulations facing businesses, or the impact of politics on the business environment. For example, think of:

- What might happen if there is a 'trade war' between the United States and China? Would that simply reallocate global economic strength – leaving Oz a net winner? Or could it be a tipping point that triggers China's vulnerabilities and worsens what would otherwise be a global downturn centred in Australia's largest market?

- What if terror finally hits Australia's shores in a massive attack? After all, as the IRA statement issued after the 1984 Brighton hotel bombing noted, “Remember we only have to be lucky once. You will have to be lucky always.” Would the hit to the economy be as big as the headlines?

- Or would the hit to business from terror actually come in the aftermath, if the public reaction to terror attacks led to big cutback of net immigration into Australia?

- Or what if a biosecurity outbreak saw a pandemic hit here in Australia? How would that ripple through the Australian economy, and which sectors would be most affected?

- Or how might a renewed and consistent set of climate initiatives affect different industries in Australia? Is the return of some form of carbon pricing likely – and what could it mean?

And some potential scenarios might focus on possible developments with new technologies and our use of them. For example, think of:

- What might happen here if Australia becomes cyber smart, thereby freeing up further investment potential? That's part of the cyber scenario covered in Chapter 3 of Part II of this issue.

Or what if there is a rapid take-up of artificial intelligence (AI)? Would the doomsayers be right, with massive job losses and permanently higher unemployment? Or would this simply be a huge-but-beneficial structural shift in the economy, seeing some sectors produce more output, but a different set of sectors employ more people?

What would Australia look like if the ‘collaborative economy’ becomes the norm? What would happen to incumbent sectors, and how would employment be affected? And might Australia’s construction sector turn out to be an unlikely loser amid such developments?

What Horizon can’t do

Yes, there’s a lot of things that we’d like to think that our new capabilities will let us do.

Equally, there’s a lot it can’t do:

- Sometimes that’s because, to get the right insights, an extra layer of client-specific modelling would be required. No, this model can’t tell you what strategies your business should adopt to fully capitalise on Asia’s new booms, or map out alternative futures for the finances of your business, or spell out the specific impact for your organisation of changes to planning laws or the rules around superannuation:
  - Such analysis is potentially doable, but we’d need to marry the insights from Horizon with other specific modelling to get the answers you need.
- Sometimes that’s because you’d like answers to questions that are just too detailed:
  - No, the Horizon model won’t tell you the demand for chocolate flavoured doughnuts in Victoria under different assumptions, or how your firm’s share prices will perform next week under different scenarios.
  - Ditto what these scenarios mean for France or Taiwan – this is a model focused on Australia.
- And sometimes that’s because we’d love to add extra detail to our model and depth to our scenarios over time:
  - You may want answers to questions that we can’t answer yet, but we hope to be able to answer as Horizon adds further detail and refreshes and renews its list of plausible future scenarios over time.
About the series

Business imperatives for a prosperous Australia
The Building the Lucky Country series has been generating conversations across business, government and media since the first publication in 2011.

The series explores challenges and opportunities that will impact the Australian economy and national prosperity and prompts Australia to think about:
- How we can move beyond riding our amazing luck to creating it?
- What are the long term economic trends that Australia needs to think about?
- What are the opportunities for the economy that we are leaving on the table?

View the complete series at www.deloitte.com/au/luckycountry.

Other series you may be interested in
Shaping Future Cities
Australia’s future is immensely bright as cities are built, continue to flourish and spread. The future of Australian cities will provide opportunities and challenges for the economy. This series explores how business, government and industry can come together to ensure we continue to create innovative and vibrant cities.

Our Voice of Asia series brings to life the challenges and opportunities facing the Asia Pacific region today and tomorrow. Beneath the surface of a cyber attack takes a deeper look at all the business implications of a cyber attack.
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