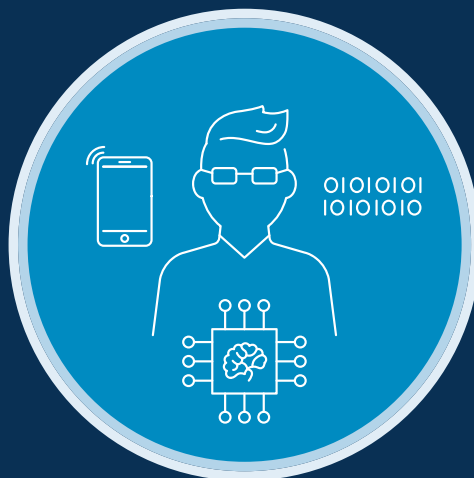


Connecting people with progress: securing future economic development

NOVEMBER 2018



About this publication

Connecting people with progress: securing future economic development
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About CEDA

CEDA – the Committee for Economic Development of Australia – is an independent, not-for-profit membership organisation. We identify policy issues that matter for Australia's future and pursue solutions that deliver better economic, social and environmental outcomes for Australia.

CEDA's cross-sector membership spans every state and territory and includes more than 780 of Australia's leading businesses, community organisations, government departments and academic institutions.

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NOVEMBER 2018

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foreword

Australia needs to fundamentally reframe its policy approach. Ad hoc and set and forget approaches to policy will not deliver what we need in the future.

Connecting people with progress: securing future economic development, is a pivotal document aimed at recalibrating the priorities for economic development to secure future progress that is tangible and relatable to the Australian community.

In the 1980s Australia required major economic reform – there were big ticket items such as freeing Australia from the shackles of trade protection, floating the dollar and reforms in domestic markets.

In fact, these are the reforms that have underpinned the economic success we have enjoyed for the last 27 years, but they were reforms that can only largely be done once.

The next generation of reform will need to be different.

We need to reframe how we look at policy change. We need policy frameworks that will allow policy to constantly adapt and update to capitalise on emerging technology and ways of working.

Policy frameworks must be nimble and responsive because that is what the future will require.

Policy and regulation are struggling to keep up with both the community's expectations and technology. That needs to change.

We can also no longer afford to have business in one silo and government in another, or for that matter, sectoral silos, pursuing their own interests assuming the community will simply accept what is delivered. This is failing to build the community trust required to deliver reform in the nation's interests.

In this report we identify five key policy areas – population; technology and data; workplace, workforce and collaboration; critical services; and institutions – as of critical importance.

These issues are fundamental for two reasons. Firstly, they cover the areas that will matter most to future economic and social success. Secondly, they interact in a way that means if we keep our focus on them as a group, we will deliver sustained economic growth and improved living standards in the areas that matter to the community.

CEDA's research and advocacy on key issues within each of these topics will evolve as critical issues emerge. We will focus on areas where bringing business, government, academia and the community together – that is our membership – will drive better results.

Essentially, we need to change the policy building blocks, so that Australia has the right foundations to develop new policy solutions that can be easily plugged in and updated to secure economic development as circumstances change. This will set our community up for future and enduring success.

There will be challenges in changing how we tackle policy and emerging opportunities, but we faced fundamental reform challenges in the past and succeeded, as outlined in this report. We can and must do so again.



Melinda Cilento
CEO CEDA



how has

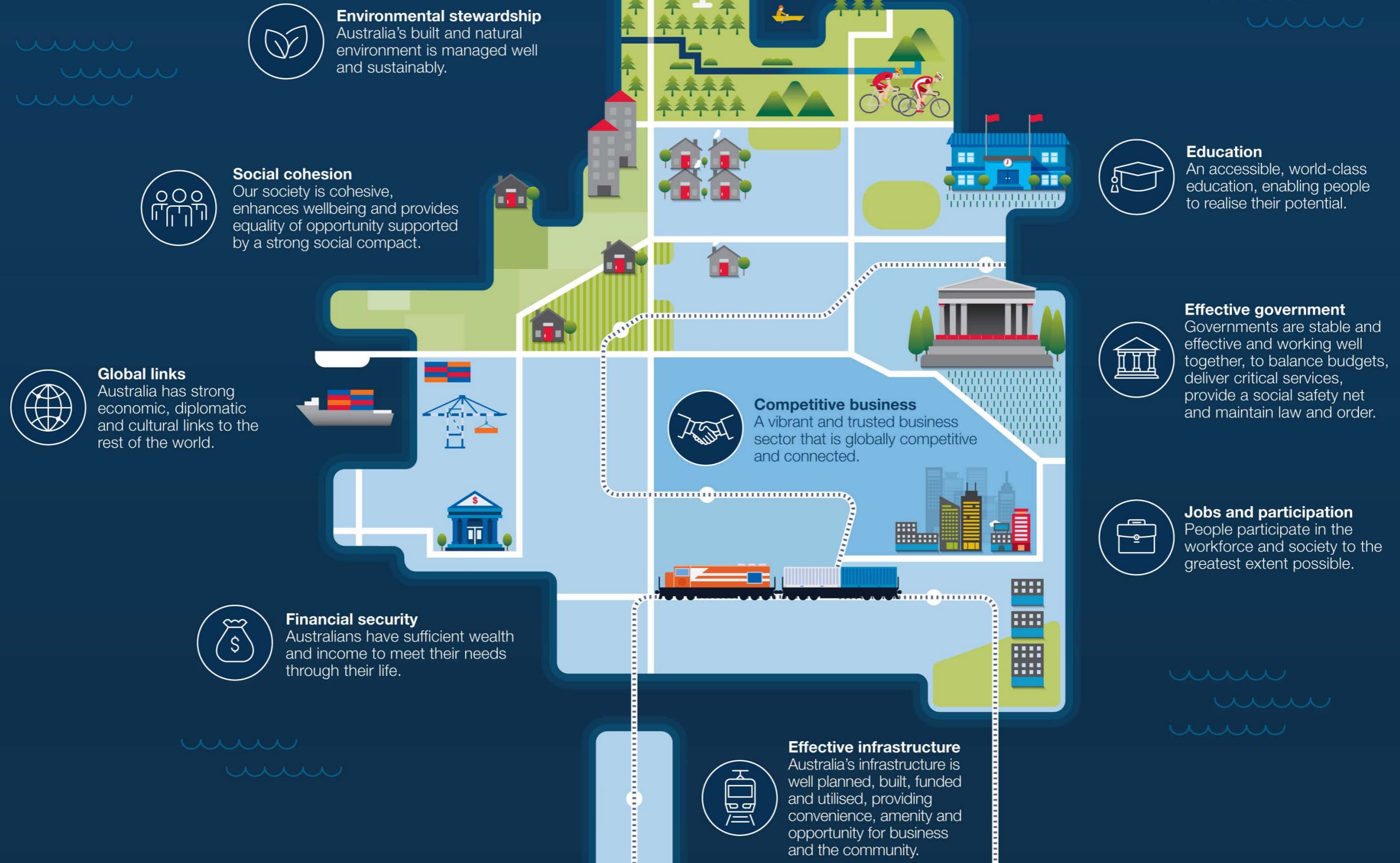
AUSTRALIA

progressed?

Connecting people with progress

Securing future economic development

What do we need for economic development?



INTRODUCTION

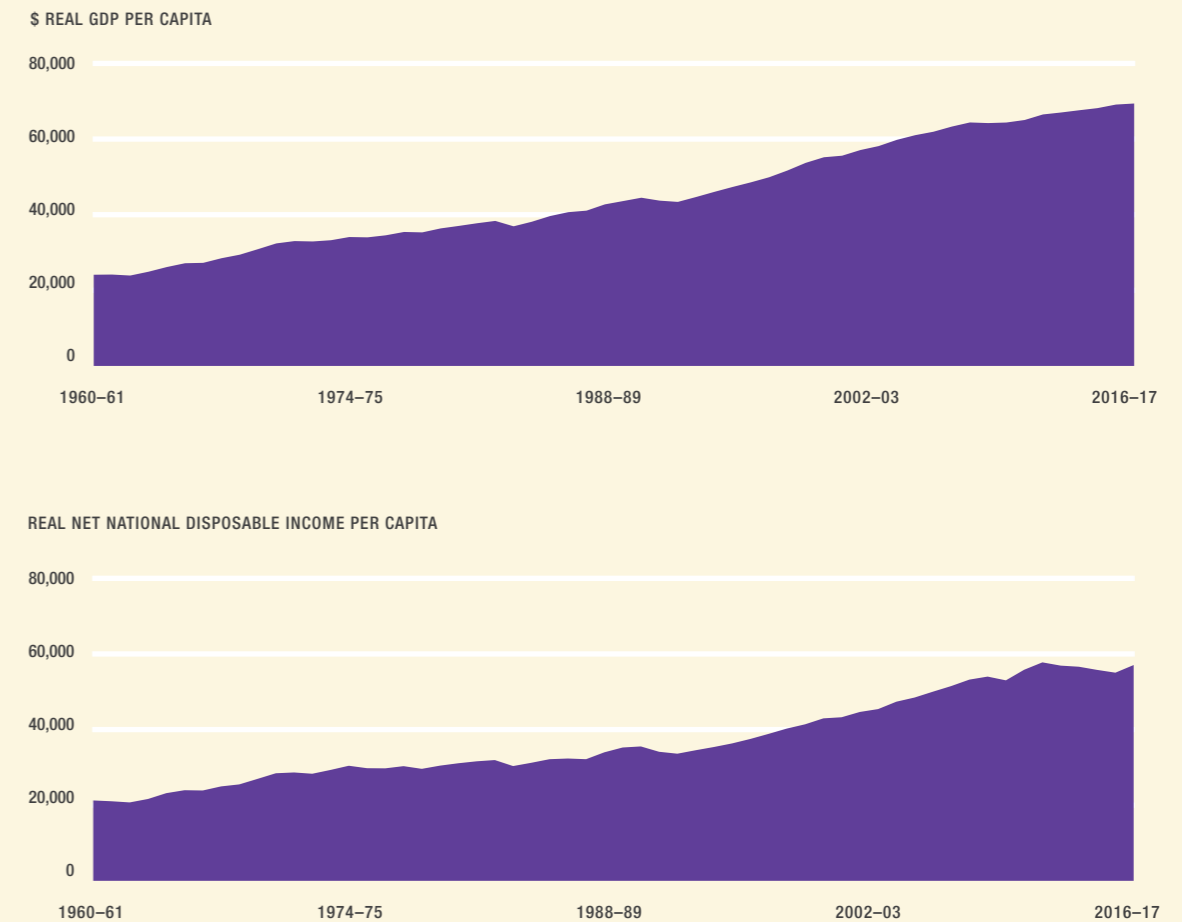
Australia has experienced enormous economic success in recent decades, across most headline economic indicators. As Figure 1.1 shows, the size of Australia's economy has almost tripled in real per capita terms since 1960. Over the same period, the amount of annual disposable income that each Australian receives has grown more than 2.5 times in real terms.

While economic growth is an essential precursor to economic development, CEDA sees economic development as encompassing a broader range of outcomes than economic growth alone. This includes health, opportunities for economic and social participation, social cohesion and connectedness, the state of the environment, safety and security across various dimensions.

Economic development occurs when economic growth translates into improvements in the standard of living across these elements. Economic development in turn underpins the community's support for that growth based on confidence it will improve their lives. This is a critical link because CEDA's *Community pulse 2018: the economic disconnect* found that many in the community did not believe that recent economic growth had improved their lives.

Economic development also lays the long-term foundations for Australia to generate sustained economic growth into the future. The broader elements of economic development outlined in the snapshot on foundations of economic development are critical to improving the lives of as many Australians as possible.

FIGURE 1.1 AUSTRALIA'S ECONOMIC GROWTH SINCE 1960



Source: ABS, Australian System of National Accounts, 2016-17, Catalogue No. 5204.0 October 2017

Snapshot:
Foundations of economic development



Health and wellbeing

Australians are in good health with a high level of wellbeing.



Jobs and participation

People participate in the workforce and society to the greatest extent possible.



Financial security

Australians have sufficient wealth and income to meet their needs through their life.



Education

An accessible world-class education enabling people to realise their potential.



Social cohesion

Our society is cohesive, enhances wellbeing and provides equality of opportunity supported by a strong social compact.



Effective infrastructure

Australia's infrastructure is well planned, built, funded and utilised, providing convenience, amenity and opportunity for business and the community.



Competitive business

A vibrant and trusted business sector that is globally competitive and connected.



Effective government

Governments are stable and effective and working well together, to balance budgets, deliver critical services, provide a social safety net and maintain law and order.



Global links

Australia has strong economic, diplomatic and cultural links to the rest of the world.



Environmental stewardship

Australia's built and natural environment is managed well and sustainably.

ELEMENTS OF ECONOMIC DEVELOPMENT

Based on these broader elements of economic development, Australia has also achieved remarkable progress in recent decades. In general, Australians are healthier, better educated, living longer, more likely to be actively participating in the labour force and in possession of greater income and wealth.

This ranks Australia highly on global ranks of economic development. For example, Australia ranks third among 189 countries on the United Nations Human Development Index (HDI), which considers health, education and income.¹ Recent research applying the HDI methodology to historical data found Australia would have been ranked first as early as 1870.²

This is not to say that progress has been uniform across all elements of development or for all parts of the population. There are several areas where Australia has fallen short and should have done better given the incredible growth in the economy. These areas are explored further in Chapter 3.

This chapter illustrates Australia's progress against each of the elements of economic development as outlined in Snapshot: Foundations of economic development. This is not designed to be an exhaustive assessment, but rather to provide illustrative examples of how Australians' lives have improved over recent decades or where we have maintained high standards of living.



Health and wellbeing

THEN...	NOW...
A girl born in 1960 could expect to live until about 74-years-old.	A girl born today can expect to live until about 84-years-old.
A boy born in 1960 could expect to live until about 68-years-old.	A boy born today can expect to live until about 80-years-old.
In 1985, Australia spent over \$2700 per person on healthcare in today's terms.	In 2015, Australia spent over \$7000 per person on healthcare.

Australians born today are generally living longer healthier lives than previous generations, with Australia enjoying the third highest life expectancy in the world.³ This is important to Australians, with *CEDA's Community pulse 2018*⁴ survey showing that Australians consistently ranked access to high-quality health care at the top of their personal and national priorities.

A 65-year-old today can expect to live another 20-odd years. This trend has been underpinned by significant advancements in health-care and Australians' capacity to fund an exponential increase in spending on health both through taxes and out-of-pocket expenses.

While attention tends to focus on the economic pressures of Australia's ageing population, less attention is paid to the value of longer, healthier lives and longer social and economic participation of older Australians. For example, more than 40 per cent of carers are over the age of 55⁵ and older Australians are staying in the workforce longer.



Jobs and participation

THEN...	NOW...
Forty years ago, the workforce participation rate was around 61 per cent .	Today, the workforce participation rate is over 65 per cent .
Female participation was around 44 per cent .	Female participation is around 60 per cent .
Participation for people over 65-years-old was around seven per cent .	Participation for people over 65-years-old has doubled to almost 14 per cent .
Forty years ago, 57 per cent of Australians were in employment.	Sixty-two per cent of Australians are in employment today, meaning that employment opportunities have grown faster than our population over four decades.

A greater proportion of Australians are in jobs than in previous decades, driven in part by the increasing workforce participation of women and older people. This has undoubtedly improved opportunity and financial security for households, with positive flow-on effects for health and social cohesion. As the Productivity Commission notes in its most recent research report on inequality, “Among the various forces acting on inequality and poverty, the one constant that matters is having a job.”⁶

At the same time, the safety and quality of jobs has improved. The share of higher skilled and higher paid jobs in our economy has increased markedly in recent decades⁷, while the rate of fatalities in workplaces has halved since the early 2000s.⁸



Financial security

THEN...	NOW...
Fifty years ago, average disposable incomes for Australians were almost \$26,000 .	Today average disposable incomes for Australians are around \$58,000 .
In the early 2000s, median net wealth of a household was around \$400,000 .	Today the median net wealth of a household is over \$500,000 , higher than most developed countries.
Before 1991, Australia did not have a superannuation guarantee .	Today, the average superannuation balance is around \$90,000 .

Most Australians have benefitted from a solid lift in incomes, particularly during the two decades leading up to the Global Financial Crisis. Between 1988–89 and 2015–16 average incomes grew by at least 1.8 per cent per annum across all income groups and substantially faster than other advanced economies such as the United States and United Kingdom.⁹

The increased rate of workforce participation noted above has also driven increased consumption, wealth and income for households. More Australian households now have two incomes – over 60 per cent today compared to 40 per cent in the early 1980s.¹⁰

Australian households are also wealthier on average than most other advanced economies.¹¹ This has been underpinned by compulsory superannuation and high levels of home ownership. It is, however, worth noting that these drivers of wealth have not benefitted all Australians to the same extent, as explored further in Chapter 3.



Education

THEN...	NOW...
Fifty years ago, just under 23 per cent of secondary school students completed Year 12.	Today, almost 85 per cent of secondary school students complete Year 12.
Thirty years ago, about 37 per cent of people had a non-school qualification (e.g. Diploma or Bachelor degree).	Today, around 60 per cent of people have a non-school qualification.

Growing rates of educational attainment have enabled more Australians to get jobs and earn higher incomes.

Australia's education system has evolved considerably since Federation, with Australians benefitting from compulsory government-funded schooling and universal access to tertiary education. Governments spent over \$90 billion on education in 2016–2017.¹²



Social cohesion

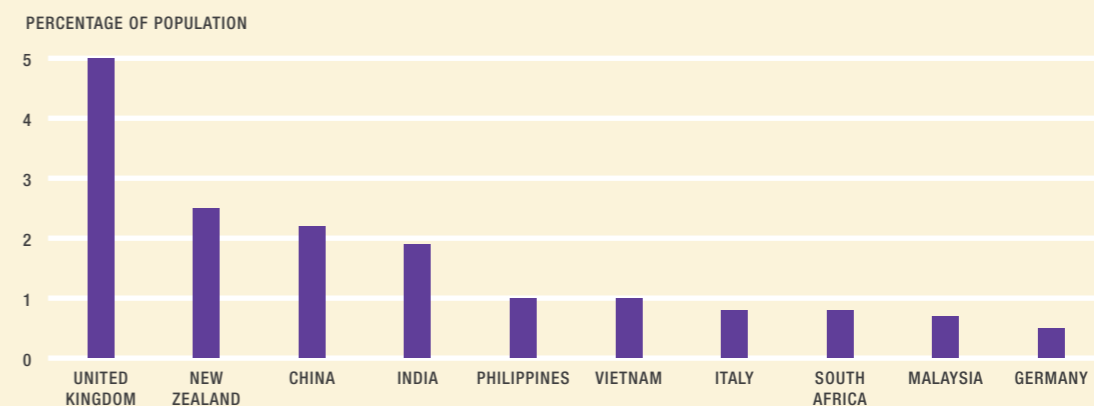
THEN...	NOW...
In 2008–09, 3.1 per cent of Australians were victims of physical assault.	Today, 2.4 per cent of Australians are victims of physical assault.

Australia has maintained reasonable levels of social cohesion. The Scanlon Foundation's *Mapping Social Cohesion 2017* report finds that despite considerable demographic change over the last 10 years, acceptance of immigration and cultural diversity, and measures of social cohesion have remained strong and stable. Twenty-eight per cent of Australians were born overseas, underlining the nation's multiculturalism.¹³ Recent surveys suggested positive attitudes towards immigration.¹⁴

Rates of crime have also fallen in Australia over recent decades, although this has been accompanied by increasing imprisonment, which is explored further in Chapters 3 and 4.

Income inequality, which is a critical driver of social cohesion has remained stable since the Global Financial Crisis, notwithstanding its increase in the decade leading up to the crisis. Australia's tax and transfer system has generally reduced overall inequality by 30 per cent and this has not changed over the last three decades.¹⁵

FIGURE 1.2 TOP 10 COUNTRIES OF BIRTH



Source: ABS, *Migration, Australia, 2015-16*, March 2017, Catalogue No. 3412.0.



Effective infrastructure

SNAPSHOT

Supporting increased economic activity: The amount of domestic goods moved through road, rail and shipping has more than tripled in the last 30 years.

Increasing safety: Fatality rates across every mode of transport have been substantially reduced in the last 40 years. The rate of road fatalities in 1976 was around 25 per 100,000 people. Today it is around five.

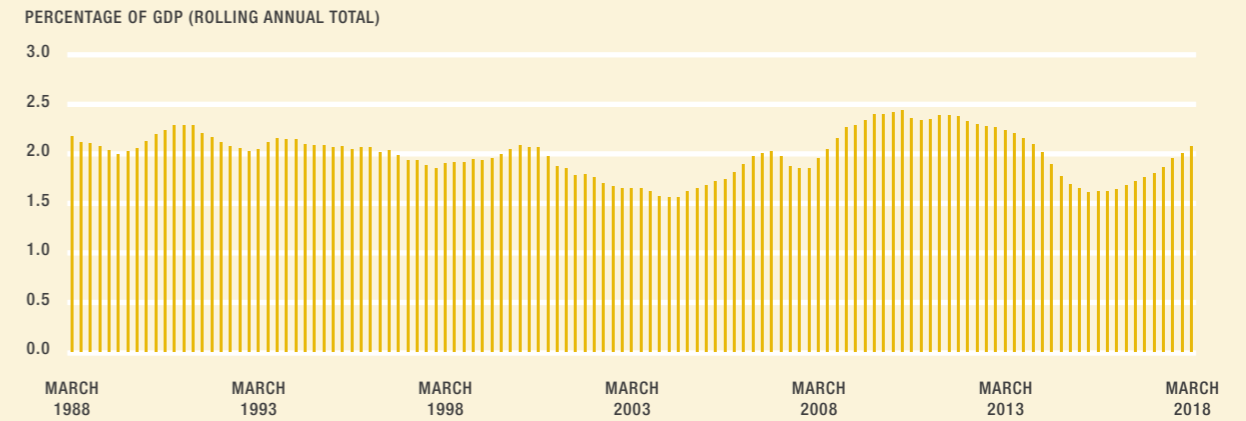
Mostly increasing capacity and reliability: Notwithstanding recent challenges in electricity, since the National Energy Market was formed in 1998, generation capacity has increased by a third and between 2001 and 2015, the reliability target of 99.998 per cent had been met on all but two occasions.

Determining the appropriate level of public infrastructure in an economy and whether investment is at a level impeding or promoting economic progress is often contested. Figure 1.3 shows that Australia has had reasonably consistent levels of public infrastructure building activity, at around two per cent of the economy.

Australia's infrastructure capacity has grown significantly to support increased economic activity, convenient and safer travel and increasing reliability.

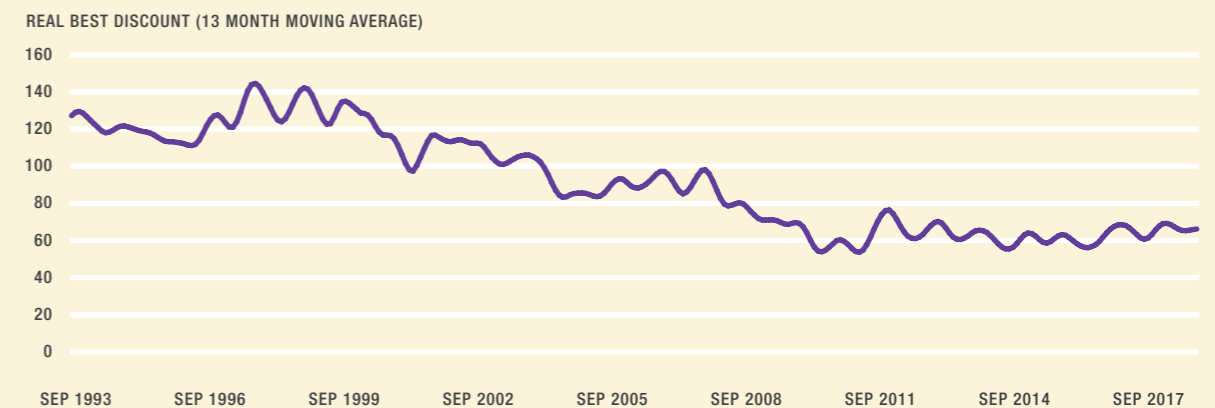
While user prices for the critical infrastructure like water and electricity may have increased, others like domestic discount airfares have actually reduced substantially in real terms following increased competition, privatisation and deregulation. More Australians are also benefitting from faster Internet speeds.

FIGURE 1.3 TOTAL VALUE OF ENGINEERING CONSTRUCTION WORK DONE FOR PUBLIC SECTOR



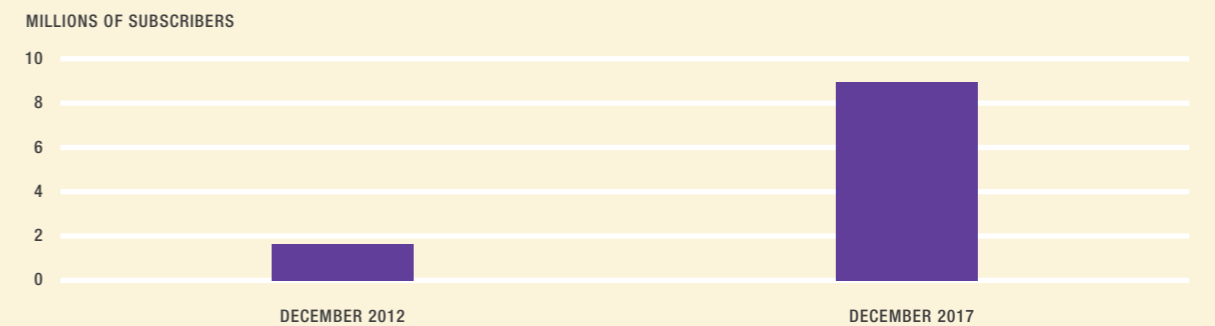
Source: ABS, Engineering Construction Activity, Australia, Mar 2018, Catalogue No. 8762.0

FIGURE 1.4 DOMESTIC AIRFARE PRICE INDEX (2003=100)



Source: BITRE, Australian Domestic Airfare Indexes.

FIGURE 1.5 BROADBAND SUBSCRIBERS WITH ADVERTISED SPEEDS GREATER THAN 25MBPS



Source: ABS, Internet Activity, Australia, December 2017, Catalogue No. 8153.0



Competitive business

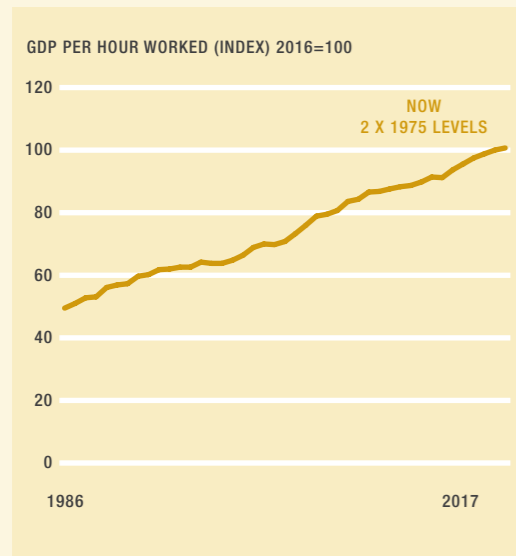
THEN...

The effective rate of government assistance to manufacturing in 1971 was 35 per cent, and for agriculture it was 25 per cent.

NOW...

Today, the effective rate of assistance in both manufacturing and agriculture is less than four per cent.

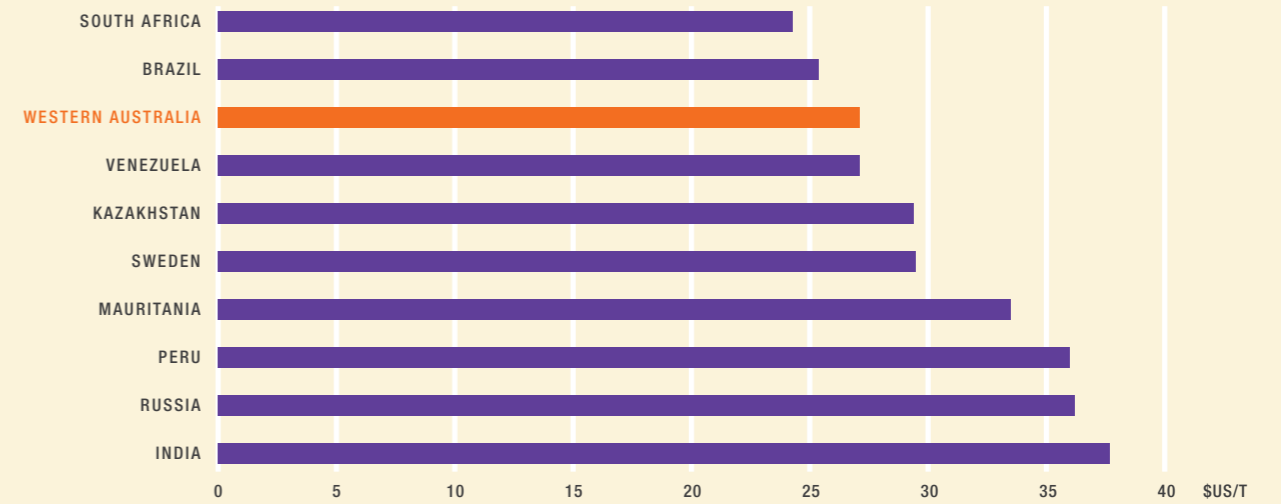
The **level** of productivity has increased



Cost competitiveness has improved



FIGURE 1.6 TOTAL CASH COST OF SEABORNE IRON ORE EXPORTS (2017, \$US)



Source: WA Department of Jobs, Tourism, Science and Innovation, Western Australia Iron Ore Profile, May 2018.

While considerable opportunities remain to lift the rate of Australia's productivity growth and improve the competitiveness of business, the absolute level of productivity and competitiveness in Australia has increased markedly over recent decades. As explored further in Chapter 2, Australia has moved from being an insular highly protected economy in the 1970s to an open and highly competitive economy today.

Even in global commodity markets like iron ore, where Australia's huge reserves were met with unprecedented global demand led by China, the disciplines of global markets have required Australian businesses to bring their costs down through innovation in technology, supply chain and logistics.

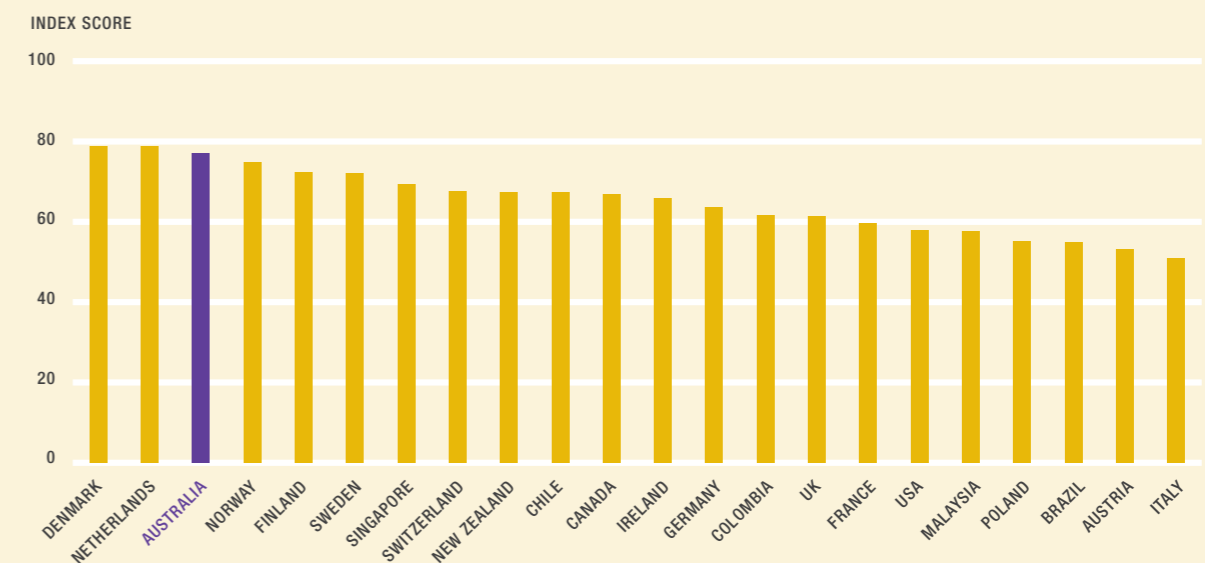


Effective government

THEN...	NOW...
<p>Episodes of high inflation: The average rate of inflation in the 1970s was almost 10 per cent.</p>	<p>Managed inflation: Since inflation targeting commenced in the early 1990s, average inflation has been 2.5 per cent.</p>
<p>Regulatory inconsistency: Prior to the 2000s, Australia had different legislative regulatory regimes across state borders in corporations law, industrial relations, occupational health and safety, consumer law, product safety and business name registration.</p>	<p>Greater regulatory harmonisation: Corporations law, industrial relations, occupational health and safety, consumer law, product safety and business name registration are all covered by national regulatory regimes.</p>

Opinions will vary on how efficient and effective Australian governments have been. Despite this, a brief survey of some of the most commonly referenced policy achievements by Australian governments over recent decades including universal healthcare and education, superannuation, the aged pension and disability insurance, suggests that we have much to be proud of.

FIGURE 1.7 MELBOURNE MERCER GLOBAL PENSION INDEX 2017

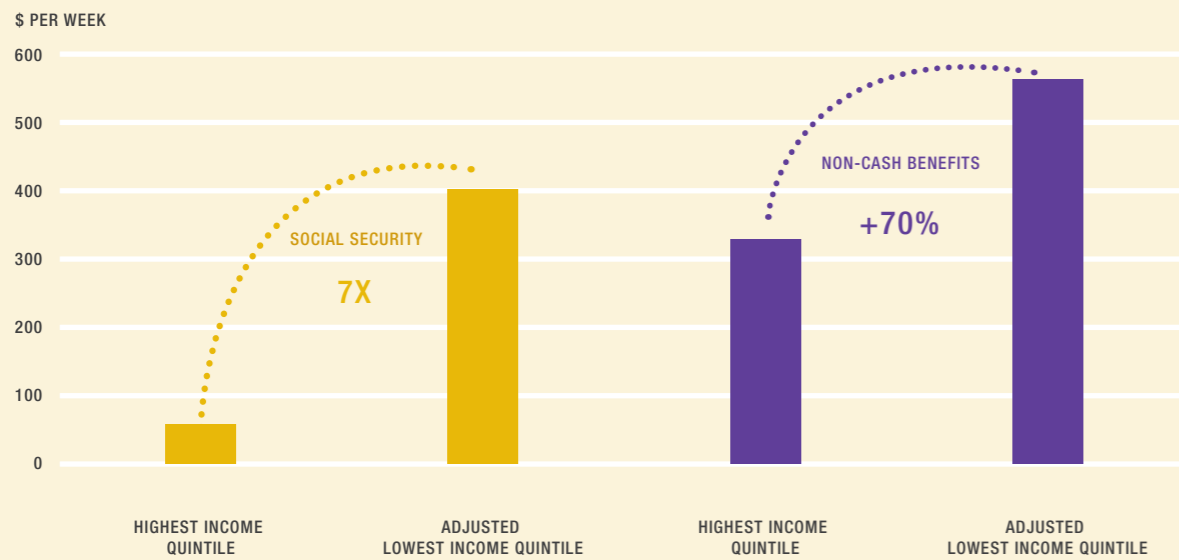


Source: Australian Centre for Financial Studies & Mercer, 2017 Melbourne Mercer Global Pension Index, October 2017. Index is calculated across the sub-indices of adequacy (40%), sustainability (35%) and integrity (25%).

Australian governments have generally been effective in establishing the overarching rules and frameworks for individuals, business and the community to pursue their goals and they have then intervened where justified. Commonly cited examples of Australian government achievements include:

- Establishing strong and effective institutions:** Australians have experienced well managed inflation from our independent central bank, the promotion of competition and consumer welfare by the Australian Competition and Consumer Commission (ACCC) and the independent role of the Fair Work Commission in setting basic minimum employment protections.
- Managing economic shocks:** The Global Financial Crisis demonstrated the value of Australia having the right policy settings, and regulatory structures to avoid recession and the impact it can have by leaving people out of work and financially insecure.
- Policies well regarded internationally:** Australian policy settings like compulsory superannuation (Figure 1.7), Medicare and gun laws are generally lauded in international policy discussions.

FIGURE 1.8 DISTRIBUTION OF SOCIAL SPENDING



Source: Adapted from P.Whiteford, Who gets what? Who pays for it? How incomes, taxes and benefits work out for Australians, *The Conversation*, 22 June 2018.

- **Financial security and protection for those who need it most:** Australia's system of income support and universal access to health, education and other services means that most government transfers and spending helps those who need it most (Figure 1.8).



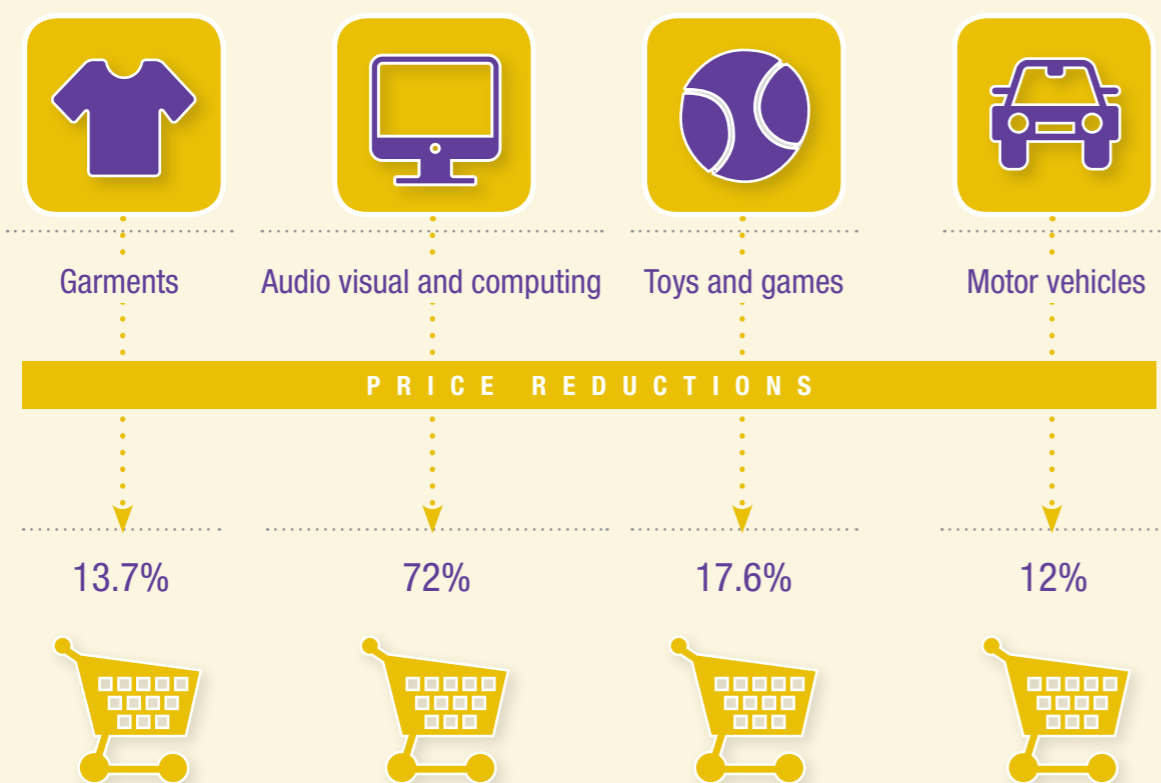
Global links

THEN...	NOW...
In 1960, Australia's exports represented about 12 per cent of our economy.	Today, Australia's exports represent about 22 per cent of our economy.
In 1980, the stock of foreign direct investment in Australia was equivalent to 14 per cent of our economy.	Today, the stock of foreign direct investment in Australia is equivalent to around 47 per cent of our economy.
In 1980, the stock of foreign direct investment that Australians had abroad was equivalent to just under three per cent of our economy.	Today, the stock of foreign direct investment that Australians have abroad is equivalent to around a third of our economy.

In contrast to the current trend towards protectionism in the United States, Australia has made significant strides in integrating our economy with the rest of the world. Australia currently has free trade agreements for two-thirds of its two-way trade and when current free trade negotiations conclude, this is likely to approach 90 per cent.¹⁶

Australia's openness on trade has delivered significant progress for Australian households – average real incomes were about \$8400 higher in 2016 than they would have been without the economic benefits generated by trade.¹⁷ Further, trade has improved the affordability of many products, as evident in Figure 1.9.

FIGURE 1.9 REAL PRICE REDUCTIONS – DECADE TO 2017–18



Source: ABS, Consumer Price Index, June 2018.

Foreign investment has played an important role supplementing Australia's domestic savings to fund the development of sectors requiring significant capital investment including agriculture, mining and manufacturing. In the case of mining, the level of foreign direct investment is now over \$300 billion growing about nine times since 2001.¹⁸



Environmental stewardship

SNAPSHOT

Improving air quality: Air quality in Australian cities is generally good. Levels of carbon monoxide, lead, nitrogen dioxide, coarse particulate matter and sulphur dioxide have decreased in the past 10 years.

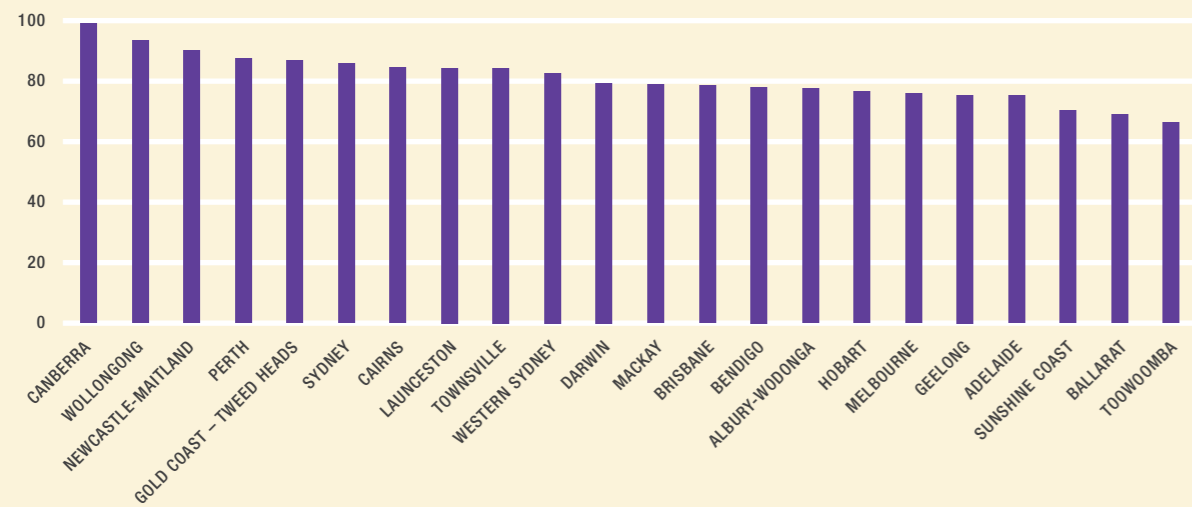
Increasing land under conservation: About 20 per cent of Australia's landmass (over 150 million ha) is under conservation.

Declining energy intensity: Australia's energy intensity across the whole economy has reduced by more than a third over the last 40 years, based on improving energy efficiency and the changing structure of the economy.

Australia's growing economy and population will place continuing pressure on the environment if left unchecked. There are a range of levers for moderating these pressures, including how we choose to live, how we produce and consume goods and services and the management of waste.

The most recent Commonwealth Government *State of the Environment* report concluded that "Australia's built environment, natural and cultural heritage, and marine and Antarctic environments are generally in good condition."¹⁹ Over time, Australia has made some gains including improved air quality in most areas, greater efforts in conservation and declining energy intensity.

FIGURE 1.10 DWELLINGS WITH ACCESS TO GREEN SPACES (% , 2016)



Source: Smart Cities Dashboard (Available: <https://smart-cities.dashboard.gov.au/all-cities/liveability#sc-sustainability>)

As Australia's population has grown there has also been a growing emphasis on the liveability and amenity of Australia's cities. This goes to the heart of how Australia manages its built environment, including density, access to green space, access to public transport and building efficiency. While liveability will come into even sharper focus as the population of Australia's cities grows, at this stage Australia is managing to maintain reasonable liveability. Australia has three cities in the top 10 of *The Economist* Intelligence Unit's Global Liveability Index.

SNAPSHOT REFERENCES

Health and Wellbeing: ABS, Life Tables, Catalogue No. 3302.0.55.001, various years; Australian Institute of Health and Welfare, Health expenditure Australia 2016.

Jobs and participation: ABS, Labour Force, Australia Catalogue No. 6202.0; Labour Force, Australia, Detailed - Electronic Delivery Catalogue No. 6291.0.55.001.

Financial security: ABS, Australian System of National Accounts, 2016-17 Catalogue No. 5204.0; Household Income and Wealth, Australia, 2015-16 Catalogue No. 6523.0; ASFA, Superannuation account balances by age and gender, October 2017.

Education: ABS, Year Book Australia, 2001 Catalogue No. 1301.0; Australian Schools: Participation and Funding 1901 to 2000, Schools, Australia, 2017 Catalogue No. 4221.0; Education and Work, Australia, May 2017 Catalogue No. 6227.0.

Social cohesion: Professor A.Markus, Mapping Social Cohesion: The Scanlon Foundation surveys 2017, Productivity Commission 2018, Rising inequality? A stocktake of the evidence, Commission Research Paper, Canberra & ABS, Crime Victimization, Australia, 2016-17.

Effective infrastructure: BITRE, Australian Infrastructure Statistics – Yearbook 2017; Long-term trends in urban public transport; Finkel, A., 2017, Speech: National Electricity Market Reform – A blueprint for the future, 21 June.

Competitive business: ABS, Australian System of National Accounts, 2016-17, Catalogue No. 5204; Productivity Commission 2018, Trade and Assistance Review 2016-17, Annual Report Series, Canberra.

Effective government: Office of the Chief Economist, Department of Industry, Innovation and Science, *Industry Insights: Flexibility and growth*, 1/2018.

Global links: UNCTAD Stat & ABS, Balance of Payments and International Investment Position, Australia, June 2018, Catalogue No. 5302.0.

Environmental stewardship: Jackson, WJ., Argent, RM., Bax, NJ., Bui, E., Clark, GF. et al., 2016, Overview. In, *Australia state of the environment 2016*. Canberra: Australian Government Department of the Environment and Energy. Accessed from <https://soe.environment.gov.au/theme/overview>, DOI 10.4226/94/58b65510c633bb

ENDNOTES

- 1 United Nations, 2018, *Human Development Indices and Indicators: 2018 Statistical update*. Accessed from: <http://hdr.undp.org/en/2018-update>
- 2 Crafts, N., 2002, The Human Development Index, 1870-1999: Some Revised Estimates. In *European Review of Economic History*. Vol 6, No. 3, pp.395-405.
- 3 Australian Bureau of Statistics, 2017, *Life Tables, States, Territories and Australia, 2014-2016*, October.
- 4 CEDA, 2018, *Community pulse 2018: the economic disconnect*. Melbourne: CEDA.
- 5 Australian Bureau of Statistics, 2018, *Disability, Ageing and Carers, Australia: Summary of Findings, 2015*, April.
- 6 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*, p.2.
- 7 See Borland and Coeli in CEDA, 2015, *Australia's future work-force?* Melbourne: CEDA.
- 8 SafeWork Australia, 2018, *Fatality Statistics*, May.
- 9 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 10 Hayes, A., Weston, R., Qu, L. and Gray, M., 2010, *Families then and now: 1980-2010*. Australian Government Australian Institute of Family Studies; Australian Government Australian Institute of Family Studies, 2018, *Work and family facts and figures*. Accessed from <https://aifs.gov.au/facts-and-figures/work-and-family>.
- 11 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 12 Australian Bureau of Statistics, 2018, *Government Finance Statistics, Education, Australia, 2016-17*, April.
- 13 Australian Bureau of Statistics, 2017, *Migration, Australia, 2015-16*, March. Catalogue No. 3412.0.
- 14 Markus, A., 2017, *Mapping social cohesion: The Scanlon Foundation surveys 2017*.
- 15 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 16 Minister for Trade, Tourism and Investment, 2018, *Address to the Committee for Economic Development of Australia*, Melbourne, 31 July.
- 17 Department of Foreign Affairs and Trade, 2018, *How trade benefits Australia*, September. Canberra: Australian Government.
- 18 Australian Bureau of Statistics, 2018, *International investment Position, Australia, Supplementary Statistics*, Catalogue 5352.0.
- 19 Jackson W.J., Argent R.M., Bax, N.J., Clark, G.F. et. al, 2017, *Australia state of the environment 2016: overview, independent report to the Australian Government Minister for the Environment and Energy* Canberra: Australian Government Department of the Environment and Energy, p.vii.

2

contributors to AUSTRALIA'S progress

What have we done well? What do we need to improve?



Social cohesion

- ✔ Overall levels of inequality have not risen since the GFC.
- ✘ Indigenous Australians continue to be left behind while Australia's incarceration rate is high and rising.



Environmental stewardship

- ✔ Air quality has improved while energy intensity has decreased.
- ✘ There is no consistent climate policy and Australia's biodiversity is under increased threat.



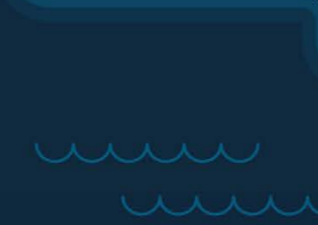
Effective government

- ✔ Well established institutions provide economic opportunities, financial security and social assistance to Australians when they need it most.
- ✘ Six Prime Ministers in the last decade has undermined long-term decision-making. Commonwealth net debt is now over 18 per cent of GDP.



Education

- ✔ Today almost 85 per cent of secondary school students complete Year 12 compared to 23 per cent 50 years ago.
- ✘ Australian students' PISA results for science, maths and reading have consistently declined.



Effective infrastructure

- ✔ The volume of domestic freight has tripled in the last 30 years.
- ✘ Australia's quality of infrastructure lags other advanced economies. The costs of traffic congestion are expected to rise to \$30 billion by 2030.



Health and wellbeing

- ✔ Australians' average life expectancy at birth has increased by more than 10 years since 1960.
- ✘ The burden of preventable diseases is increasing.



Jobs and participation

- ✔ 62 per cent of Australians are in jobs.
- ✘ Long-term unemployment has doubled in the last decade.



Financial security

- ✔ Disposable incomes have grown more than 2.5 times since 1960.
- ✘ Relative poverty has hovered around 10 per cent over the last three decades. Over 700,000 people live in persistent poverty.



Competitive business

- ✔ Levels of productivity have doubled since 1975.
- ✘ Less than half of Australian businesses are innovating.



Global links

- ✔ Since 1960, Australia's exports have almost doubled as a proportion of our economy.
- ✘ Australia's trade relationship with some major emerging markets are underdeveloped. There is a threat of rising protectionism.



INTRODUCTION

Given the considerable economic progress that Australia has achieved, there has been much debate about the most important factors driving Australia's success over recent decades.

It is impossible to pinpoint one or two factors that have driven the incredible progress outlined in Chapter 1. Australia's economic success is best explained as the result of the interaction of a range of factors.

This chapter briefly outlines the common narratives that have been used to explain the consistent rise of living standards in Australia over recent decades, namely:

- people and societal norms
- the broad transformation of Australia's policy framework and institutions
- the evolving role of the three pillars of population, participation and productivity over different periods
- the Australian economy's resilience to economic shocks
- the abundance of natural resources
- our proximity to the growing centre of economic gravity in Asia.

Some of these factors are about Australia's raw economic capacity such as population, participation and Australia's natural resources. Others are about demand for Australia's goods and services. Factors such as our people, policy frameworks and institutions have been central to Australia then being able to exploit economic capacity and demand opportunities, converting them into economic development.

PEOPLE AND SOCIETAL NORMS

The fundamental role of a nation's people is often lost in explanations of success in economic development. While the entities made up of groups of people like businesses and governments are often afforded a central place in explaining economic development, people are given less prominence.

Initiative, relationships and ethics

It is after all, people who have new ideas and start enterprises and initiatives that give effect to these ideas. It is also people who establish strong interpersonal links both within and across borders that form the beginnings of trusted commercial relationships, and foster cohesive relationships with new immigrants. And it is people who choose to act ethically and in the best interests of the community, even when this takes their actions beyond simply complying with the law.

Resilience and capacity to change

Australia's people have also shown resilience, and a capacity for compassion and creative problem solving in difficult periods whether this is as a result of economic downturn, natural disaster or resource shortages. Where Australia's policy settings and institutions have not been seen as promoting the prosperity of Australians, people have been willing to agitate for change and exercise their democratic right to bring about change.¹

Openness and egalitarianism

All of this has been underpinned by Australia's liberal democratic, secular and multicultural character.² We pursue an open society through a contest of ideas, freedom of speech, the rule of law, free media and accountability for those who govern.

Australia also values egalitarianism, which is reflected in Australia's highly targeted and progressive tax and transfer system and universal health and education systems, as highlighted in Chapter 1. This spreads social support and opportunity across the community more than many other advanced economies, supporting social cohesion.

The role of people and societal norms is less tangible and less easily supported by economic data than the remaining explanations for our economic success provided here. Yet, it is inseparable from these explanations and our future prospects for economic advancement.

AUSTRALIA'S POLICY AND INSTITUTIONAL TRANSFORMATION

The institutional and key policy arrangements that underpin economic activity in Australia have undergone a dramatic transformation over the past half century.

From the 1960s to the early 1980s, Australia could be characterised as a protected and regulated economy, with many public-sector monopolies, impeding the productive capacity of the economy compared with other advanced countries. As much of the rest of the world enjoyed economic benefits arising from increased globalisation, many Australian businesses relied on government support and protection from competition to cover their inefficiencies.

Institutional and policy reforms

Today, the difference could not be more striking. Highly integrated with the rest of the world, Australia has an open, competitive economy that has demonstrated its flexibility to adjust to economic shocks, while maintaining enviable levels of economic prosperity.

Table 2.1 outlines the key institutional and policy reforms that have each played a role in driving this transformation and summarises the main impacts of the reform.

Broadly, the reforms have allowed Australia to compete in an increasingly globalised world and introduced mechanisms that enable the economy to absorb shocks when things go wrong. Furthermore, Australian businesses were forced to become more productive to compete in domestic and international markets with the removal of regulatory and tariff protections. At the same time, the skills base of Australia's workers grew through education and migration policy.

These changes have had a profound impact on the economic performance of Australia – for example, by lifting incomes, increasing employment, lowering taxes and prices, managing inflation, and providing more consumer choice.

It should also be noted that these changes were by no means easy and did not come without significant adjustment costs for businesses and workers. Lessons were applied early on after the impacts of sudden reforms (e.g. early tariff reductions on the manufacturing sector) became apparent. This included careful sequencing of reform and a raft of supporting measures including industry compensation, training schemes and a safety net for displaced workers, as well as support for regions where impacted businesses and workers were concentrated. In addition, there was not always clear consensus or uniform support for the reforms being pursued.

TABLE 2.1 KEY ELEMENTS OF AUSTRALIA'S ECONOMIC TRANSFORMATION AND THEIR IMPACTS

REFORM	SUMMARY OF IMPACTS
Trade liberalisation	
<ul style="list-style-type: none"> • Reductions in tariff assistance and import controls that began in the early 1970s continued throughout the 1990s and last decade. • Reductions covered the automotive, whitegoods and textile, labour, clothing and footwear industries. 	<ul style="list-style-type: none"> • Lower prices and broader choice. • In 2016, the economy was 5.4 per cent bigger than it would have otherwise have been without trade liberalisation.³
Capital markets	
<ul style="list-style-type: none"> • The Australian dollar was floated in 1983, while foreign exchange controls and capital rationing were removed progressively from the early 1980s. • Foreign-owned banks could compete in the domestic market. • The Australian Prudential Regulation Authority (APRA) was established in July 1998 to maintain the safety and soundness of Australian financial institutions. 	<ul style="list-style-type: none"> • Exchange rate flexibility has played a crucial role in buffering the economy from external shocks. • Competition for market share intensified with the entry of foreign banks – precipitated a large increase in the availability of credit. • APRA's activities have improved confidence in the Australian financial system and reduced the risk of the failure of Australian financial institutions.
Infrastructure	
<ul style="list-style-type: none"> • Partial deregulation and restructuring of airlines, coastal shipping, communications and the waterfront from the late 1980s. • Corporatisation and privatisation initiatives for government business enterprises (GBEs) were progressively implemented from around the same time. 	<ul style="list-style-type: none"> • GBEs were exposed to increasing commercial disciplines, generally leading to lower consumer prices, and improved government budgetary positions.⁴

REFORM

SUMMARY OF IMPACTS

Labour markets

- The Prices and Income Accord between the Australian Council of Trade Unions (ACTU) and the Labor Government operated from 1983 to 1996. It involved several agreements between the Government and the ACTU that unions would moderate wage demands, with additional wage rises beyond basic increases needing to be offset by productivity. The Government sought to improve the social wage through better public health services, pensions, unemployment benefits and superannuation.
- Award restructuring and simplification, and enterprise bargaining began in the late 1980s.
- Reform continued through the 1990s, including, further award simplification and the introduction of individual employment contracts.

- General consensus is that the Price and Income Accord was successful in restraining real wage growth below what it would otherwise have been, thereby promoting employment growth (at least during the period 1983 to 1989).
- Enterprise bargaining and individual agreements between employers and workers have provided flexibility for employers and workers to negotiate directly over wages, and to strengthen links with productivity outcomes – although there is debate about the impact of these reforms on employment, wages, living standards and productivity.

National Competition Policy (NCP) reforms

- In 1995, comprehensive reforms to essential services industries (including energy and road transport), government businesses and anti-competitive regulation were pursued through a coordinated program by all governments.

- Contributed to Australia's productivity and economic growth and associated strong growth in household incomes.
- Directly reduced the prices of goods and services (such as electricity and milk).
- Stimulated business innovation, customer responsiveness and choice.
- The observed productivity and price changes in key infrastructure sectors in the 1990s increased the value of Australia's economy by 2.5 per cent, or \$20 billion.⁵

REFORM

SUMMARY OF IMPACTS

Macroeconomic policy

- From the mid-1980s, fiscal policy targeted higher national saving and, from the mid-1990s, focused on reducing government debt.
- Inflation targeting was introduced in 1993, with the Reserve Bank of Australia granted greater independence to set monetary policy, primarily through setting official interest rates.

- The RBA has been successful in managing inflation within its two to three per cent target, while the average unemployment rates in the most recent decade is lower than the one in the decade preceding it.
- The RBA's actions, coupled with the flexibility provided by a floating Australian dollar, have been critical to Australia's ability in recent decades to weather economic downturns.

Taxation reform

- Capital gains tax and the dividend imputation system were introduced in 1985 and 1987, respectively.
- The company tax rate was lowered progressively from the late 1980s.
- The narrow wholesale sales tax and inefficient state duties were replaced by the Goods and Services Tax, a broad-based consumption tax in 2000. Personal income tax rates were also lowered.

- Replacement of inefficient taxes with a rationalised suite of taxes streamlined administration, increased government accountability, reduced complexity and compliance costs, and increased productivity.⁶
- Lower company taxes can increase investment and encourage innovation and entrepreneurial activity.
- Lower personal income taxes can encourage workforce participation and income available to households.

Migration policy

- Following the dismantling of the White Australia policy in the 1970s, there has been a shift towards multiculturalism in migration policy.
- In the early 1980s, the migration program favoured migrants with family links in Australia.
- In the mid-1990s, there was a significant increase in the size of the permanent migrant intake, with an increased focus on skilled worker and business migration.
- Since the turn of the century, there has been an increase in temporary migration, through temporary work visas to address specific skills shortages, and for international students.

- Shift to skill-based migration has boosted human capital and addressed skill shortages in some sectors of the economy.
- Migration has slowed the rate of ageing of the Australian population (see Figure 2.5 below).
- Evidence suggests that new migrants have contributed to new ideas, innovation and foreign direct investment.
- Temporary student visas have increased exports of international education.

THE ROLE OF POPULATION, PARTICIPATION AND PRODUCTIVITY

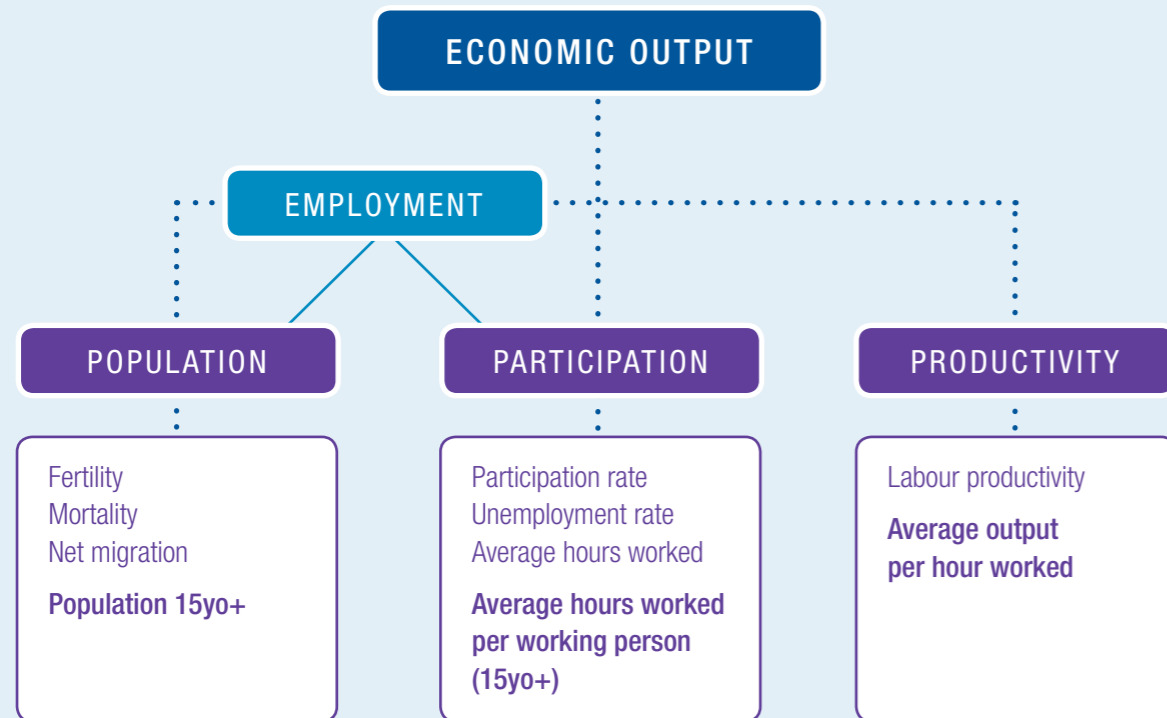
The three pillars of population, participation and productivity are often used to explain the capacity of the economy to grow and the nature of growth that has been experienced.

Population refers to how fast the potential workforce (i.e. those aged 15 and above) is growing, based on the size and structure of the population.

Participation then explains the extent to which that potential workforce is participating in employment.

Finally, productivity is how much value workers are generating from each hour of their work.

FIGURE 2.1 THE THREE PILLARS OF ECONOMIC GROWTH – POPULATION, PARTICIPATION AND PRODUCTIVITY



Source: Commonwealth Treasury

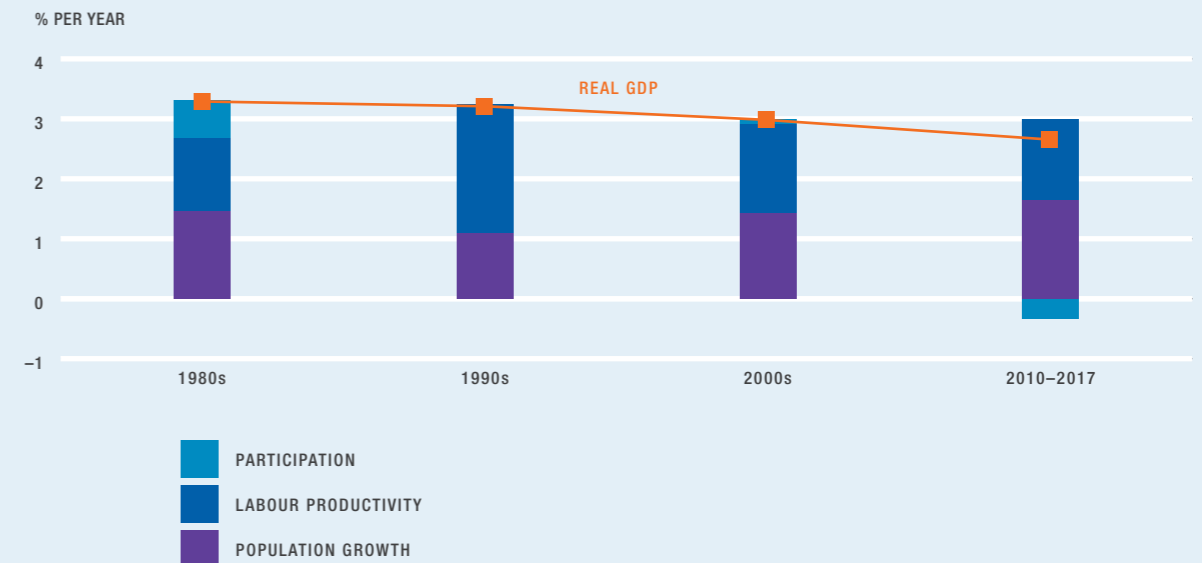
A rising population and a high rate of participation in work are both consistent with positive outcomes in terms of economic growth. Population growth both through natural increase and migration increases the size of the potential workforce. Paid employment is the main source of household income for most Australians. It also contributes to overall wellbeing, self-esteem, and mental health.

As the size of the population grows, the amount of output produced by the economy is shared among a larger number of people, which affects living standards. This means that productivity growth (i.e. increases in the average output per hour worked) is a critical driver of both economic growth *and* standards of living.

Higher productivity means that an economy is producing more output for a given set of inputs. It improves the performance and competitiveness of business and can be a source of higher returns to shareholders and to workers.

As illustrated in Figure 2.2, the importance of the respective contributions made by population, participation, and productivity towards Australia's economic progress has changed over different time periods. The main factors underpinning these changes are examined for each of the pillars below.

FIGURE 2.2 CONTRIBUTIONS TO ECONOMIC GROWTH



Source: ABS, Labour Force, Australia, Catalogue no. 6202.0; Population by Age and Sex, Australian States and Territories, Catalogue no. 3201.0, Australian National Accounts: National Income, Expenditure and Product, Catalogue no. 5206.0; and Labour Force Historical Time series, Australia, 1966 to 1984, Catalogue no. 6204.0.55.001

POPULATION AS A CONSISTENT DRIVER OF AUSTRALIAN ECONOMIC GROWTH

As depicted in Figure 2.2, an increasing national population has been a significant component and consistent driver of economic growth in Australia.

In 2018, Australia reached a new population milestone of 25 million people. This has been achieved on the back of annual population growth rates of more than 1.5 per cent over the past decade, higher than past decades.

Australia stands out from most other advanced economies where, over the past decade, population growth has been much slower, and in the case of Japan and Greece national populations are shrinking.

Population growth is determined by a combination of:

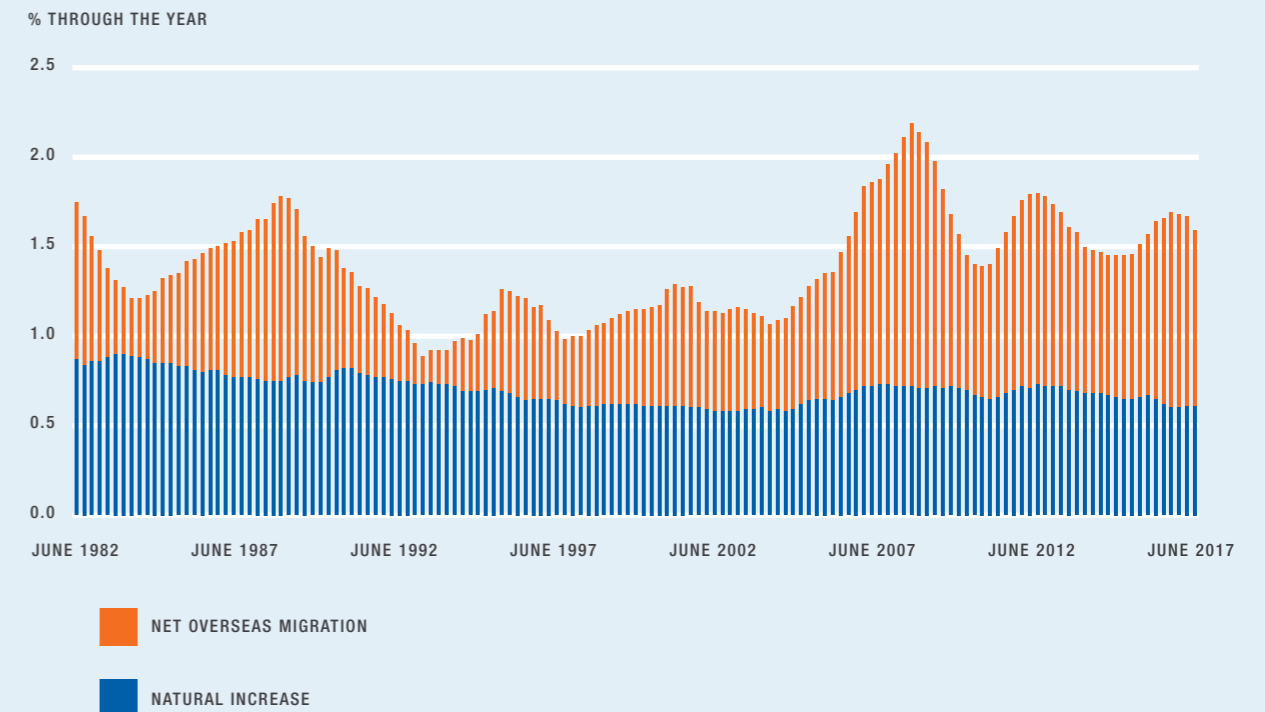
- the natural increase in population – the difference between the number of births and deaths
- net overseas migration – the net gain or loss of population through immigration into, and emigration out of, a country.

FIGURE 2.3 AVERAGE ANNUAL POPULATION GROWTH, 2007 TO 2017



Source: World Bank estimates

FIGURE 2.4 AUSTRALIA'S POPULATION GROWTH – NATURAL INCREASE AND NET OVERSEAS MIGRATION



Source: ABS, Australian Demographic Statistics, December 2017, cat.no. 3101.0

Figure 2.4 shows that, since the turn of the century, the contribution to population growth from natural sources has been relatively stable, rising at around 0.7 per cent per year. In the last decade, net overseas migration, has grown on average 1.0 per cent per annum compared to an average of around 0.7 per cent per year on average over the last 25 years.

Australia's permanent migration intake is determined by government policy and is reviewed each year as part of the Budget process taking into account economic and social considerations. Since the mid-1990s, there has been a shift in the mix of permanent migrants from family reunion to skilled categories, in order to address particular skill shortages in the economy. When the recent resources boom precipitated higher demand for skilled labour, there was a surge in net overseas migration into Australia.

A large increase in the number of overseas students coming to Australia on student visas over the past decade has been another important source of population growth, with research indicating that around 16 per cent of these students eventually transition to permanent residency in Australia after completing their studies.⁷

Skills and age profile of migration

The characteristics of the migrants settling in Australia also affects the age profile and skills base of the overall population. This in turn influences rates of participation and productivity.

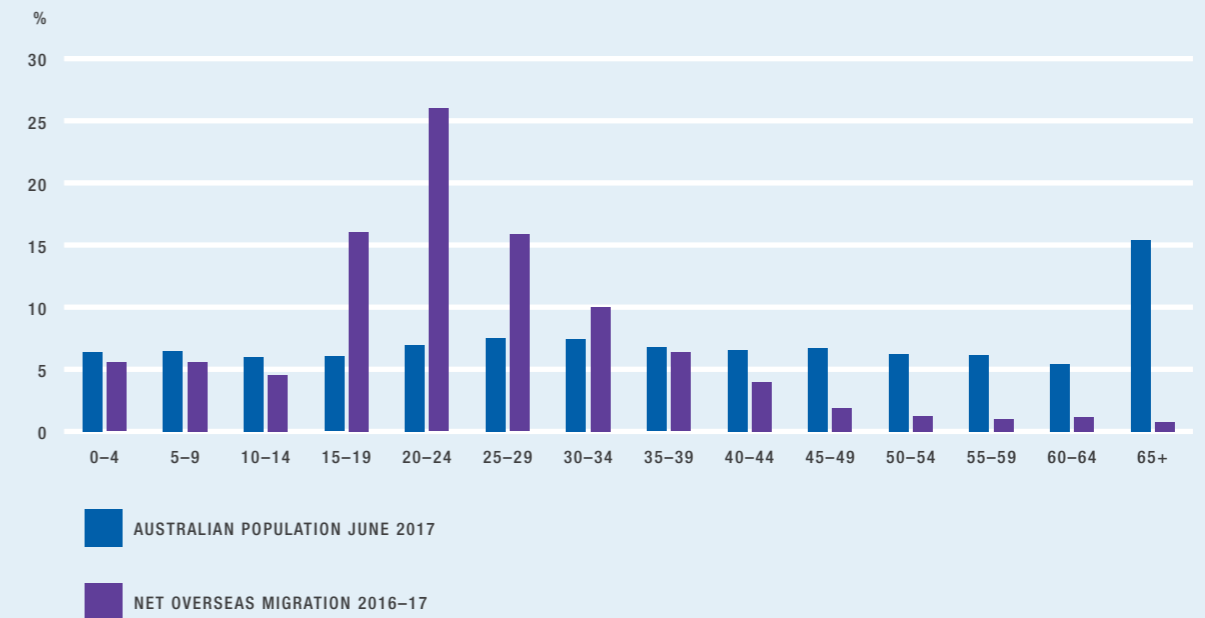
On average, new migrants to Australia tend to be younger than the existing population, which has been significant in slowing the rate of ageing of the Australian population. In addition, the migrant population overall is more likely to hold a post secondary school qualification. Furthermore, the increased diversity and new ideas that migrants bring can help Australian businesses to innovate. Migrants attract capital inflows from their countries of origin, which has been linked to higher levels of foreign direct investment. All of these factors have positive impacts on Australia's prosperity.

Over reliance on population growth?

While population growth has been a consistent contributor to Australia's positive economic performance, some have argued that there has been an over-reliance on population as a source of growth over the last decade. As noted above, when population grows faster than productivity and participation, then living standards measured by GDP per capita will grow slower.

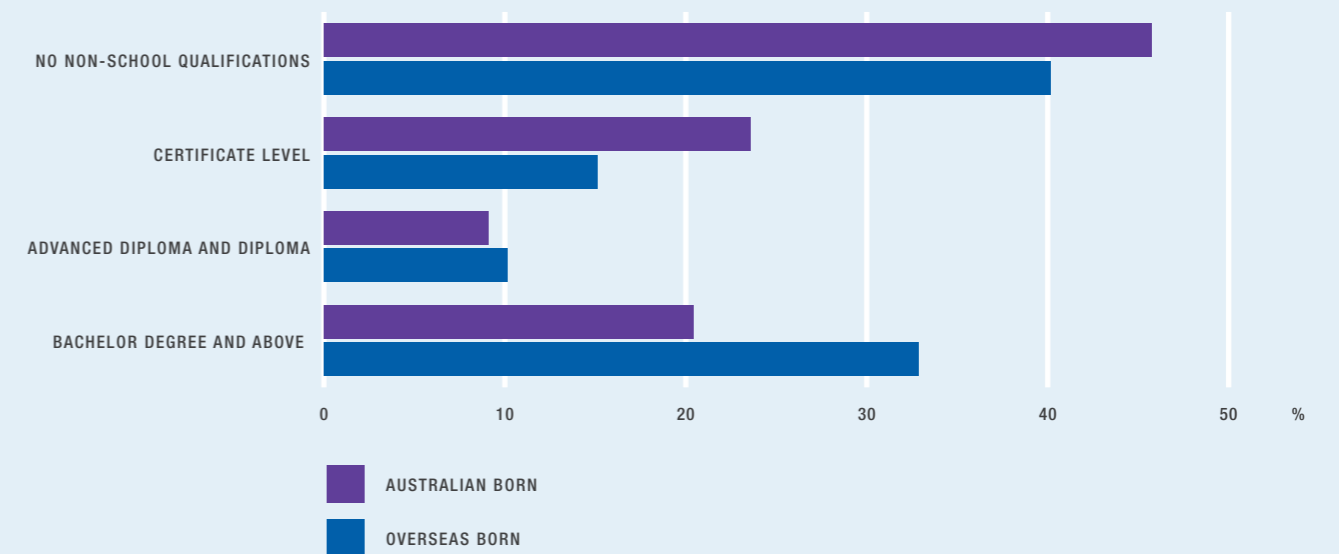
A rising population can also present other challenges such as transport congestion and housing affordability. As explored further in Chapter 4, these challenges are not insurmountable provided that governments have a comprehensive strategy, and there is strengthening productivity growth. Australia's history and the benefits of population growth noted above suggest that these are challenges that we should confront to manage our growing population.

FIGURE 2.5 AGE DISTRIBUTION OF AUSTRALIA'S POPULATION AND MIGRANTS



Source: ABS, Australian Demographic Statistics, December 2017, cat no. 3101.0, and Migration, Australia 2016-17, cat no. 3412.0

FIGURE 2.6 LEVEL OF EDUCATION BY COUNTRY OF BIRTH



Source: ABS, cat. no. 2071.0, Census of Population and Housing: Reflecting Australia – Stories from the Census 2016 – Educational Qualifications

TRENDS IN PARTICIPATION

As shown in Figure 2.2 above, the contribution made by participation in the workforce to Australia's economic growth over the past few decades has been less consistent and significant than population growth.

After trending upwards since the 1980s, labour force participation dipped from the early 2010s as the share of working age people in the overall population has reduced and average hours worked continues to come down. There has been some recovery in recent years, due to a number of trends that are helping to boost participation.

These mitigating factors include:

- The entry of new young migrants into Australia which, as discussed above, has helped to slow the rate at which the population is ageing, and boost the size of the working age group.
- There has been an increase in participation rates among women, reflecting a range of factors such as government support for child care, declining fertility rates; changing societal attitudes; increased prevalence of part-time and flexible working arrangements; and the growing trend towards dual income households to support standards of living.

FIGURE 2.7 LABOUR FORCE PARTICIPATION RATE



Source: ABS cat. no. 6202.0

- There has been an increase in participation by older workers (aged 55 and above) as a result of:
 - improved health outcomes and longevity
 - the need for increased savings to finance a longer retirement
 - shift towards services sector jobs that tend to be less physically demanding
 - the increase in ages for pension eligibility, and the preservation age to access superannuation.

As a result of these trends, the participation outcome has been better than predicted in the very first (2002) *Intergenerational Report*.⁸

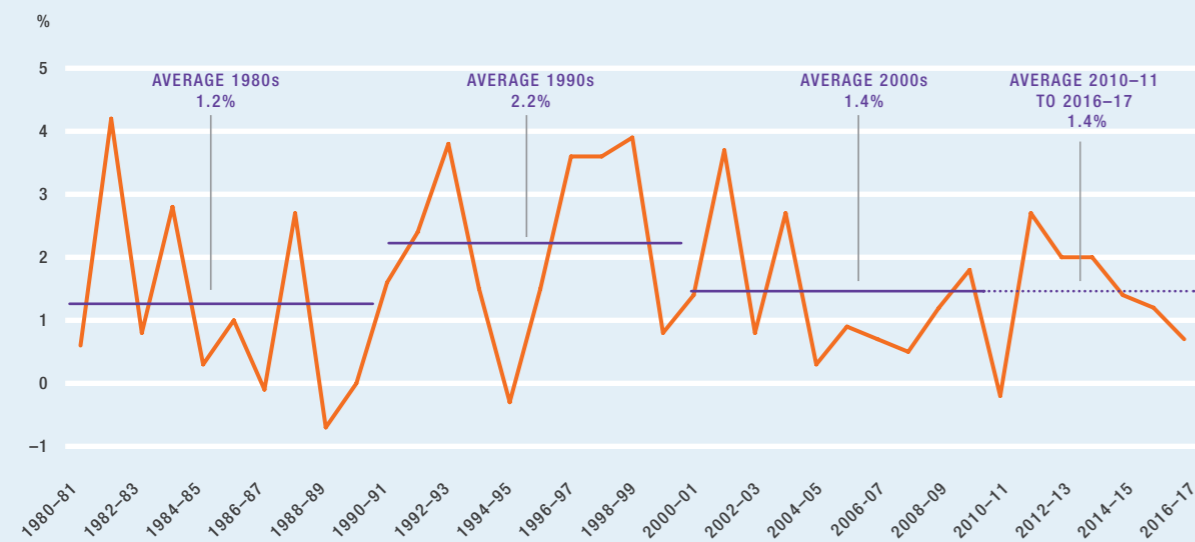
PRODUCTIVITY'S CONTRIBUTION TO IMPROVED LIVING STANDARDS

The ability to become more productive as a nation – by making better use of available resources – is critical to sustained economic growth, higher incomes, rising wages, and better living standards. This explains why policies designed to lift productivity growth have been an important priority for successive Australian governments in recent decades.

Trends in labour productivity growth in Australia since 1980 are depicted in Figure 2.8, which highlights three distinct phases:

1. The 1980s experienced lacklustre labour productivity growth (with an annual average increase of just 1.2 per cent). This is attributed to the closed, protected and highly regulated nature of the domestic economy at the time, which did not provide a conducive environment for productivity growth.
2. The 1990s witnessed unprecedented productivity growth (in excess of two per cent per year on average) in response to both increased investment in information and communications technology and the policy and institutional reforms of the 1980s and 1990s. Strong productivity performance was by far the main contributor to Australia's overall economic growth in the 1990s.
3. Since the 2000s, productivity growth has slowed down to around 1.4 per cent per year. A number of explanations have been offered for this decline including the impact of drought on the agricultural sector, the unprecedented investment in inputs in the mining sector and a slowdown in most advanced economies brought on by a possible slowing in rates of technological change.⁹

FIGURE 2.8 LABOUR PRODUCTIVITY GROWTH



Source: ABS, Australian System of National Accounts, 2016-17, Catalogue No. 5204.0, October 2017.

Human capital

There are many factors that influence productivity growth, but ultimately it is people and the decisions they take within organisations that makes Australia more productive. There are a number of policy mechanisms that Australian governments have implemented to improve the productive capacity and incentives for productivity-enhancing activities.

In terms of *direct* approaches, investment in human capital can influence the rate of innovation and adoption of new technologies in the workplace. This includes policies that enhance educational attainment and skills formation, as well as health outcomes.

Chapter 1 summarised the progress that has been made in terms of improved education and health outcomes. Australian governments have invested in human capital through:

- the development of a universal education system that includes compulsory government-funded education until adulthood, and universal access to tertiary (post-school) education
- prioritising the completion of Year 12 or equivalent in setting education policy and targets
- a greater focus on early childhood learning and development, which has been shown to produce improved outcomes later in life.

Australia's strong health outcomes have been underpinned by a well-funded public health system, with universal access to health care through the Medicare system, augmented by government incentives for citizens to hold private health insurance. In addition, Australia has had a strong focus on public health campaigns including early detection mechanisms for cancers and policies to discourage smoking. Australia has also been a leader in the development and adoption of health technologies such as the Cochlear implant.

Infrastructure

While education and health services represent forms of social infrastructure, investment, regulation and governance of physical infrastructure has an important impact on productivity. This includes transport (such as roads and rail) and utilities (for example, gas and water pipelines, sewerage and electricity transmission networks). Infrastructure industries such as electricity, gas and water, communication services and transport and storage have directly enhanced productivity growth in recent decades.¹⁰

Technology and innovation

Technology and innovation are other important sources of productivity growth, through the creation of higher value products, more efficient production techniques, and more effective workplace organisation. In Australia, technological progress to date has been concentrated in the areas of ICT, including improvements in IT software.

Research undertaken by the Productivity Commission¹¹ indicates that:

- Compared with their overseas counterparts, Australian firms have been active in their uptake of ICT and successful in their efforts to turn it to productive advantage.
- Australian firms invested more in ICT, especially from the mid-1990s, as technological advances provided cheaper and readier access to more accurate, timely and useful information.
- The acceleration in use of ICT in the 1990s raised the rates of productivity growth in Australia, and these productivity gains were high by international standards.

Competition

Government policies such as economic and institutional reforms outlined in Table 2.1 earlier have also had an *indirect* impact on productivity growth. The introduction of a strengthened competitive framework has motivated Australian businesses to improve their efficiencies and lower cost structures, while deregulation has removed obstacles to higher levels of productivity. Meanwhile, Australia's growing openness to the world – for example, in terms of trade, investment and people – has provided incentives and new pathways for enhanced productivity growth.

Tax

Reforms to simplify the tax system have had a similar effect. For example, reductions in the rate of corporate tax, which has trended downwards since the 1980s, have promoted productivity by boosting the funds available to business for more investment, and research and development.¹²

The factors outlined above have underpinned growing productivity in Australia over the past few decades. However, the slowdown in the average rates of productivity growth since the turn of the century is cause for concern. Meeting the challenge of finding new ways to reinvigorate productivity growth represents a priority to ensure Australia's continuing prosperity.

AUSTRALIA'S ABILITY TO WEATHER EXTERNAL SHOCKS AND AVOID CYCLICAL DOWNTURNS

While population, participation and productivity help to explain the *underlying* drivers of economic growth, it is not unusual for advanced countries to experience periods of economic downturn. Often, economic downturns can be precipitated by external economic shocks. The oil price hikes of 1973 and 1979 are good examples of shocks that had massive ramifications across global economies. More recently, the Global Financial Crisis (GFC), that began in 2007–08, had a devastating impact on most economies around the world.

Various studies¹³ point to the harmful and often prolonged impacts of economic downturns. These can include increases in long-term unemployment, deep collapses in asset prices and spiralling government debt levels. All of these can reduce wealth and income for

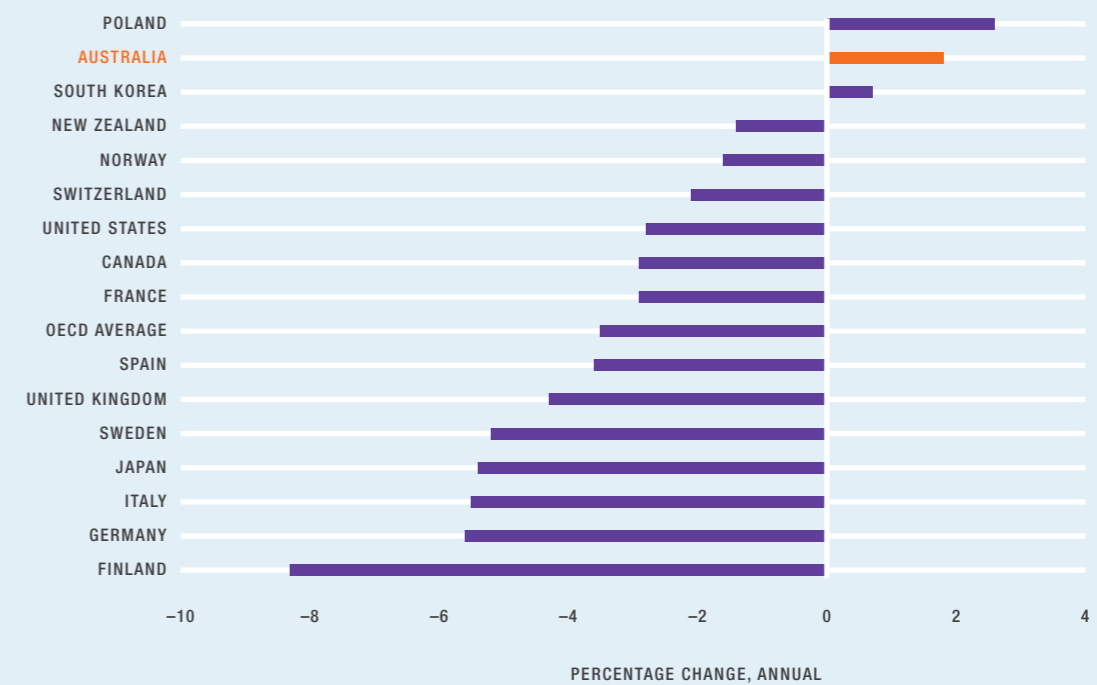
individuals and exacerbate inequalities within and between generations. Reducing the frequency and severity of downturns is therefore an important goal for economic development and advanced economies have made major progress on this score since the industrial revolution.¹⁴

Australia is unusual among advanced economies in enjoying 27 years of continuous economic growth since the recession of 1990–91.¹⁵ Australia has managed to sustain economic growth through the Asian Financial Crisis, the tech boom and bust of the early 2000s and the GFC.

Australia's GFC experience

The GFC is the most recent example of the Australian economy's resilience to global economic shocks. While there was a slowdown in the rate of economic growth, Australia was one of the few OECD economies that continued to expand in 2009, while the negative economic impacts of the GFC were being felt in most other developed countries.

FIGURE 2.9 ECONOMIC GROWTH, 2009



Source: OECD

Unemployment in Australia did increase during the GFC, but only modestly. Between early 2008 and mid-2009, the unemployment rate in Australia increased by less than two percentage points to reach a peak of less than six per cent, far less severe than during the previous economic downturn of the early 1990s. In part, this reflects a shift from full- to part-time work as many businesses chose to reduce the working hours of their workforce rather than make redundancies and lose skilled staff.

Australia's experience during the GFC demonstrates the ability of its economy to weather a severe economic shock. Box 2.1 summarises specific factors that contributed to Australia's robust performance during this crisis.

AUSTRALIA'S ABUNDANCE IN NATURAL RESOURCES

Among advanced economies, Australia is unusual in its abundance of natural resources. Throughout the country's history, this sector has played a major role in the economy. From wool and wheat in the 19th and 20th centuries, the discovery of gold in the 1850s and, more recently, the emergence of massive mineral reserves including iron ore, coal and gas.

New technologies have allowed the exploitation of ore deposits that were previously deemed uneconomic. But natural resources have long been responsible for generating national income, creating jobs, and underpinning Australia's prosperity. Even today, primary products account for most of the country's export earnings.

Beginnings of the mining boom

The 1950s and 1960s witnessed the emergence of Australian mining on the world stage. Major discoveries of iron ore in the Pilbara region of Western Australia and bauxite (the main source of aluminium) on Cape York in far north Queensland, and the industrialisation of Japan resulted in a rapid expansion of Australian mineral production and exports.

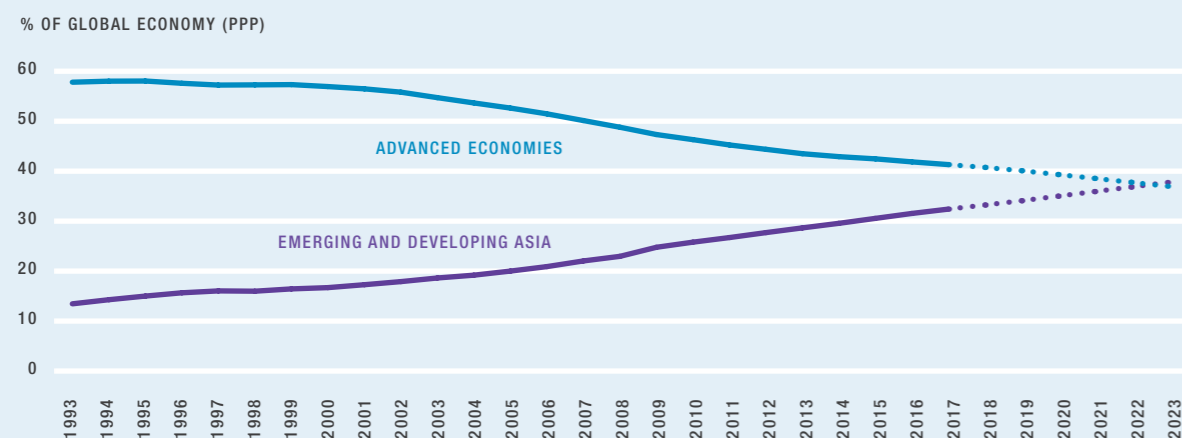
Box 2.1

How did Australia survive the Global Financial Crisis (GFC)?

While there is some debate about the relative importance of each of the following factors, they are generally regarded as being responsible for Australia's economic resilience during the GFC.

- **The exchange rate fell sharply.** The Australian dollar depreciated rapidly and sizeably during 2009 as the GFC intensified, declining by over 30 per cent from its July 2008 peak. This has had an expansionary impetus on the domestic economy by improving the international competitiveness of Australia's manufacturers and services exports. The exchange rate was doing what it was designed to do following the decision to float the exchange rate.
- **The Reserve Bank of Australia had scope to ease monetary policy significantly** in response to the GFC. The official cash rate fell from 7.25 per cent at the start of September 2008 to three per cent in April 2009. In most other advanced economies, interest rates were already low at the start of the downturn, leaving much less scope for monetary policy. The bulk of the reduction in cash rate flowed through to lending rates. With most households and business loans in Australia being variable, monetary policy was rapidly translated to a change in household disposable income.
- **Australia's fiscal position was strong, providing scope for a significant macroeconomic policy stimulus.** From a fiscal standpoint, Australia was well-positioned when the GFC hit, underpinned by strong revenue growth during the mining boom. Households had also built up a financial buffer, aided by strong income growth in the lead-up to the GFC. The Federal Government's strong fiscal surplus and low debt position also allowed one-off cash payments to be distributed to more than 13 million Australians as part of its \$52.4 billion fiscal stimulus package.
- **The Australian banking sector went into the GFC in reasonable shape.** Because of their profitability, Australian banks did not feel the need to seek out risky lending practices, such as the sub-prime mortgages that precipitated the collapse of some major international banks. Strong prudential standards underpinned the foundations of the domestic banking sector, which had access to global finance even during the depths of the crisis. Banks also received assistance with wholesale fundraising in the form of a government guarantee.
- **China increased its demand for Australian resources.** In response to the GFC, the Chinese Government introduced a massive economic stimulus plan, with investment in public infrastructure accounting for the lion's share of the stimulus package. This underpinned continued growth in demand for Australian resources.

FIGURE 2.11 ADVANCED ECONOMIES VS EMERGING AND DEVELOPING ASIA



Source: IMF DataMapper, World Economic Outlook April 2018
 Note: As at December 2016

Trade opportunities from within Australia's neighbourhood increased further over the following decades as industrialisation continued in other parts of Asia, including China in the 1980s. Lacking sufficient domestic supplies of natural resources, Asian countries have been reliant on imports as their economies develop to satisfy growing demand for energy, and raw materials for steel to use in the construction of infrastructure.

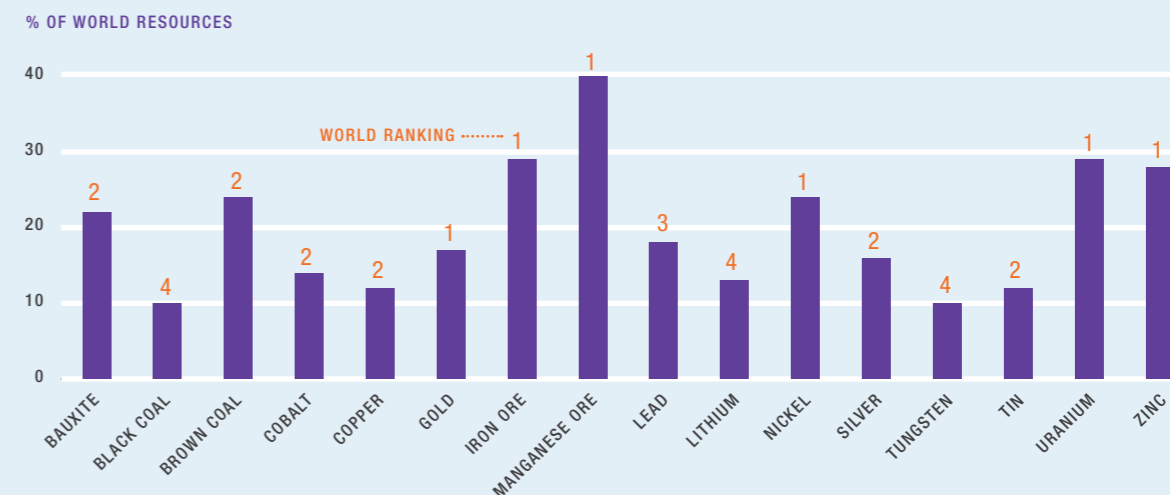
As evident in Figure 2.11, the growing economic prominence of Asia in the world economy has been rapid and is set to continue.

Australia is well-placed to satisfy the growing Asian demand for mineral resources – both because of its geographic proximity to the region and as a world leader in recoverable reserves of key minerals.

Resources investment

The contribution of resources to Australia's economic development was no more evident than during the most recent resources investment boom. Fuelled by rising global demand – particularly from a fast-growing Chinese economy – the world price of Australia's mining exports more than tripled over the 10 years to 2012. This saw increased demand for workers and higher wages, higher shareholder returns and increased government revenue.

FIGURE 2.12 WORLD RANKING OF AUSTRALIA'S DEMONSTRATED RESERVES OF MAJOR MINERAL RESOURCES (AS AT DECEMBER 2016)



Source: Geoscience Australia, Australian Government, Australia's Identified Mineral Resources 2017

Research by the RBA estimated that, by 2013, the mining boom raised overall real per capita household disposable income by 13 per cent, lifted real wages by six per cent, and lowered the unemployment rate by about 1.25 percentage points.¹⁶

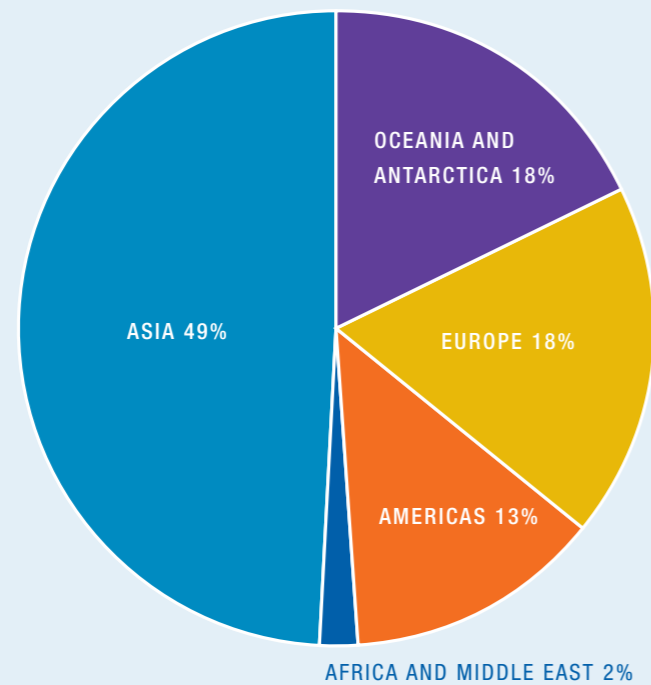
CONTINUING DEMAND FROM ASIA

Australia's resources sector is not the only part of Australia's economy that has benefited from growing demand from Asia. Much of the recent growth in the Australian economy has been driven by an expansion in service sectors. A key contributor has been the growth in inbound tourism and exports of international education through fee-paying foreign students coming to Australia to study.

Tourism and education arrivals

Total international arrivals into Australia exceeded a record 8.8 million in 2017, a healthy 6.5 per cent increase over the previous year. Almost half of these arrivals travelled from the Asian region, led by approximately 1.4 million Chinese visitors. This now matches the number of arrivals from New Zealand.

FIGURE 2.13 INTERNATIONAL ARRIVALS INTO AUSTRALIA IN 2017, BY REGION



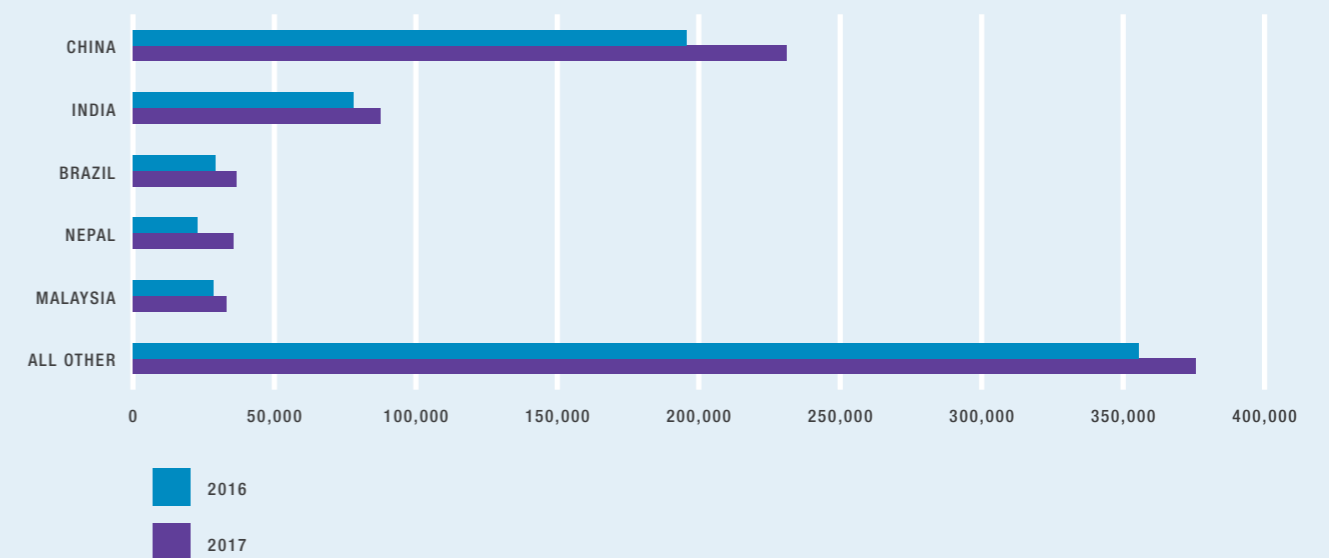
Source: Tourism Victoria, ABS

China is also the leading single source of international students enrolling in Australian educational institutions, accounting for approximately 30 per cent of international enrolments made in 2017. There was a 12.7 per cent increase in the number of fee paying international students in Australia between 2016 and 2017, a significant increase over the average annual enrolments growth rate of 4.4 per cent over the preceding 10 years.

A flexible economy

The emergence of these service exports as a growing source of national income and employment generation at a time when the impetus of the recent mining boom is fading away is further evidence of the flexibility of the Australian economy. Nevertheless, it would be unwise for Australia to be over-reliant or complacent about Asia underpinning its economic growth.

FIGURE 2.14 INTERNATIONAL STUDENT ENROLMENTS



Source: Provider Registration and International Student Management System, Department of Education and Training

As subsequent chapters of this report will explore, Australia must prepare to meet the challenges of coming decades to sustain economic progress into the future. Furthermore, it is recognised that the benefits of economic growth have not been realised by all Australians. There are areas where progress has fallen short, and action is needed to raise living standards.

ENDNOTES

- 1 McLean, I.W., 2013, *Why Australia Prospered – the shifting sources of economic growth*. Princeton University Press
- 2 Varghese, P., 2015, 'An Australian world view: A practitioner's perspective', Speech to the Lowy Institute, 20 August.
- 3 Centre for International Economics, 2017, *Australian trade liberalisation: Analysis of the economic impacts*, report prepared for the Department of Foreign Affairs and Trade, October.
- 4 Marsden, J., 1998, *Reforming Public Enterprises – Case Studies Australia*. Paris: OECD.
- 5 Productivity Commission, 2005, *Review of National Competition Policy Reforms*, February.
- 6 Commonwealth of Australia, 2009, *Australia's Future Tax System*, December.
- 7 The Treasury and the Department of Home Affairs, 2018, *Shaping a Nation*, Treasury Research Institute External Papers, April. Canberra: Australian Government.
- 8 Intergenerational report 2002.
- 9 Campbell, S. and Withers, H., 2017, 'Australian productivity trends and the effect of structural change', *Treasury Economic Roundup*, 28 August.
- 10 Parham, D., 2003, *Sources of Australia's Productivity Revival*, December.
- 11 Productivity Commission, 2004, *ICT Use and Productivity: A Synthesis from Studies of Australian Firms*, Commission Research Paper, July.
- 12 Meanwhile, cuts to rates of personal income tax have encouraged greater workforce participation.
- 13 See, for example, Reinhart, C.M., and Rogoff K.S., 2009, 'The aftermath of financial crises', *American Economic Review* 99, no. 2: 466-472.
- 14 Haldane, A., 2018, 'Ideas and Institutions – A Growth Story', Speech to The Guild Society University of Oxford, 23 May.
- 15 This claim is based on the generally-accepted definition that a recession requires two consecutive quarters of negative economic growth.
- 16 Downes, P., Hanslow, K. and Tulip, P., 2014, *The Effect of the Mining Boom on the Australian Economy*, Reserve Bank of Australian Research Paper, RDP 2014-08, August.



where is

AUSTRALIA'S

progress

falling short?

INTRODUCTION

There are several areas where Australia is still falling short, despite its economic success and the multiple points of progress outlined in Chapter 1. The areas where Australia is falling short, include:

- Sections of Australia's population have not experienced the kind of progress that might have been expected in terms of wealth, income and employment, based on the economy's strong long-term performance.
- There are new threats to Australia's health and wellbeing, including the growing burden of mental illness.
- Performance is deteriorating in areas like school education that will eventually drag on future economic capacity.
- We are not moving fast enough to adopt digital technologies, innovate and improve the competitiveness of business.
- The nature of recent growth has built up risks like growing household and government debt that may leave our economy more vulnerable in the case of future shocks.

Australia's vulnerabilities have been magnified by the nature of recent economic growth. Australia's continuing growth at the headline level has masked recent slow wages growth, stagnant incomes and many Australians wanting more work, even if they are already employed. There are early signs that stronger economic growth at the headline level is beginning to spur a turnaround in these areas.

Consistent with the approach in Chapter 1, the following provides a snapshot of Australia's progress against each of the elements of economic development outlined earlier. This is not designed to be an exhaustive assessment, but rather to provide illustrative examples of where Australia is not making sufficient progress.

Even this relatively high-level snapshot suggests that there is little room for complacency when it comes to Australia's long-term economic development. To the extent that stronger economic growth eventuates, it will be important that Australia takes the opportunity to address the multitude of challenges outlined here to secure long-term economic development.



Health and wellbeing

SNAPSHOT

Increasing rates of preventable disease: The proportion of people with diabetes (self-reported) has tripled since 1990 (4.7 per cent of Australians reporting the condition). Over 80 per cent of these cases are Type 2 diabetes, which is preventable by maintaining a healthy lifestyle.

Increasing health risk factors: Around 28 per cent of adults are obese and about a quarter of children are overweight or obese, increasing the risk of developing a number of diseases.

Mental health services are not keeping pace with the burden of illness: The burden of serious mental illness in Australia is estimated to cost the economy almost \$60 billion per year.

Australia's health system is relatively inefficient: Previous studies have shown that the performance of the Australian healthcare system could be lifted by as much as 20 per cent.

In striving to meet the incredible growth in demand for healthcare, Australians' improving health has come at a cost to efficiency – a cost of up to 20 per cent based on some estimates.¹ These inefficiencies result from:

- clinical interventions that are either excessive, unnecessary or provide limited benefits

- preventable adverse events in hospitals, which can add six to 10 per cent to the costs of the hospital system, according to the Australian Commission on Safety and Quality in Health Care
- a lack of data and transparency on the performance of health providers.

While more than 80 per cent of Australians have at least one chronic health condition or risk factor, the system remains heavily skewed towards acute care.² Around one-third of chronic health conditions can be prevented,³ but Australia spends just \$89 per person each year on preventative health, compared to total expenditure of over \$7000.⁴

Australia is also confronting a growing mental health burden, estimated to cost the economy around \$60 billion a year due to lost productivity, job turnover, absenteeism, unemployment and direct costs.⁵ The challenges are similar to those in preventative health – promoting education and awareness. Less than half of Australians with anxiety and depression seek treatment and it takes eight years on average for people experiencing anxiety to seek help.⁶



Jobs and participation

SNAPSHOT

Lack of opportunities for people with a disability: Fifty-three per cent of people with a disability participate in the workforce, compared to 83 per cent for people without a disability. Australia lags most OECD economies in labour force participation of people with a disability.

Long-term unemployment: Over 160,000 Australians have been unemployed for more than a year. Long-term unemployment has doubled in the last decade.

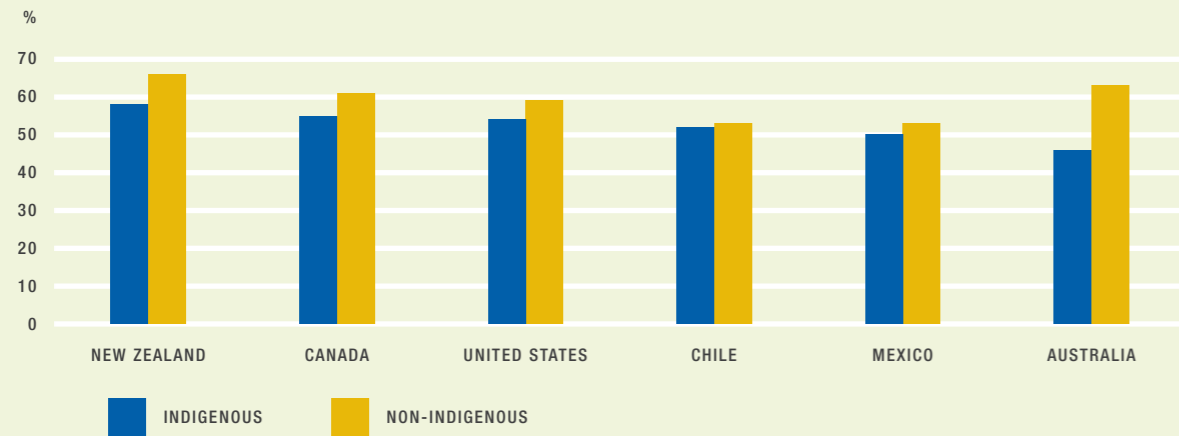
Young Australians not engaged: Almost 585,000 Australians aged 15–24 are not in school or fully engaged in study or employment.

Indigenous participation: In 2016, the national Indigenous participation rate was 57.1 per cent, compared with 77 per cent for the non-Indigenous population. The unemployment rate for Indigenous people was almost three-times the rate for non-Indigenous people.

Australians not attached to the labour market are less likely to be benefitting from Australia's long period of continuous economic growth. For example, 80 per cent of families with no paid work are in the bottom 20 per cent of the income distribution.⁷

Strong employment growth has not led to improved outcomes for some of Australia's most marginalised job seekers.

FIGURE 3.1 EMPLOYMENT RATES BY INDIGENOUS STATUS (15y.o. +)

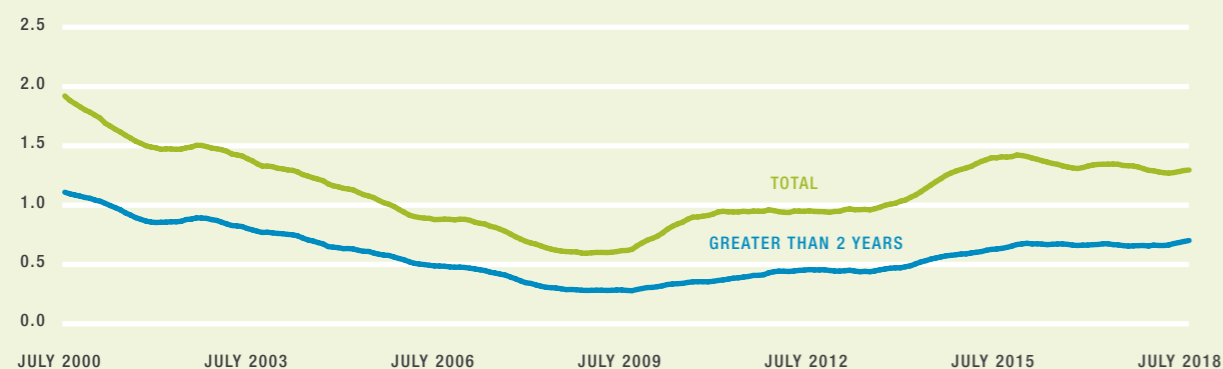


Source: OECD, *Connecting people with jobs Australia*. Latest years available.

There is also a growing proportion of Australians in long-term unemployment. While the long-term unemployment rate has not reached levels seen in the wake of recessions, it has climbed steadily to its highest point in 15 years. As noted in *How Unequal? Insights on inequality*, the Commonwealth Government's program for assisting jobseekers, JobActive is unlikely to be adequate for addressing long-term unemployment.

Youth unemployment has been falling in Australia and is low compared to other OECD countries, but a substantial number of young Australians are not in school or fully engaged in employment or education. The majority of those out of education and work are not actively looking for employment, due to health problems and caring responsibilities.⁸

FIGURE 3.2 LONG-TERM UNEMPLOYMENT RATE (12 MONTHS OR GREATER)



Source: ABS, Labour Force, Australia, Detailed – Electronic Delivery, July 2018.

Box 3.1

Explaining recent low wage growth

There are both cyclical and structural explanations for slower wage growth in recent years.

Cyclical factors related to the economy

- In terms of cyclical factors explaining why wages are yet to grow more strongly, the labour market still has spare capacity.
- While unemployment has been coming down, Australia is yet to reach full employment. This may be lower than five per cent based on experience in other economies that have revised their estimates of full employment lower.
- There is also spare capacity in the form of underemployment – people already in the labour market who want to work more hours. Underemployment is currently at 8.3 per cent.
- In addition, as the labour market strengthens discouraged jobseekers will come back to the market looking for jobs and boosting labour force participation.
- All of these factors underline that there remains spare capacity in the labour market, which goes at least some way to explaining why wages aren't growing more strongly.

Structural factors

- There are also structural factors that may be influencing wages. That is, even where companies are finding it more difficult to find workers, this is not putting the kind of upward pressure on wages that would normally be expected. One explanation offered for this is a reduction in the bargaining power of workers.
- Another possible explanation is technology. Recent technological progress is strongly focused on software and information technology rather than physical capital. The gap between the leading and lagging companies in this kind of technological innovation and productivity has increased.
- The returns to leading firms who use technology well are increasing strongly but those returns are highly concentrated in a small number of companies and certain parts of the labour market. Lagging firms that are slipping further behind the leaders feel under pressure and focus on keeping costs under control including wages to stay competitive. Over time, this should change with greater diffusion of technology, which will lift productivity and wages more broadly.

Source: Lowe, P. 13 June 2018, 'Productivity, Wages and Prosperity', Address to Australian Industry Group.

Some might argue that Australia is falling short in terms of recent low wage growth. After all, as the Reserve Bank Governor has suggested “...slow wages growth is diminishing our sense of shared prosperity.”⁹ However, as Box 3.1 demonstrates, there are a number of factors behind recent lower wages growth that may not have simple causes or remedies.

Women continue to have poorer outcomes in the labour market than men. They are underrepresented in organisational leadership roles. As the Workplace Gender Equality Agency points out, almost 83 per cent of CEOs in non-public organisations are men. In addition, the female workforce is heavily concentrated in the clerical and administrative, sales, community and personal services occupations, which generally provide lower pay and more limited pathways to leadership.

While Australians are changing their attitudes to parenting and work, the most recent HILDA data shows that women still assume a much greater burden of housework than men. In addition, these more traditional attitudes at home are only further entrenched with the birth of children, while women’s workforce participation drops.

Employment prospects are also variable across regions. For example, the Productivity Commission has found that over the past five years, population and employment has decreased in some agricultural regions and marginal mining regions.¹⁰ The same study found that remote regions and outer regional areas have lower capacity to adapt in the event of economic shocks and industry transitions, highlighting the continuing vulnerability of parts of Australia to technological and economic change.



Financial security

SNAPSHOT

Housing affordability: Today, about 20 per cent of household spending is housing costs, up from about 13 per cent 30 years ago. Despite this, rates of home ownership have fallen across most age groups during that time.

Increasing household debt: Australian households' debt to income ratio has tripled in the last three decades, rising from around 63 per cent to 190 per cent.

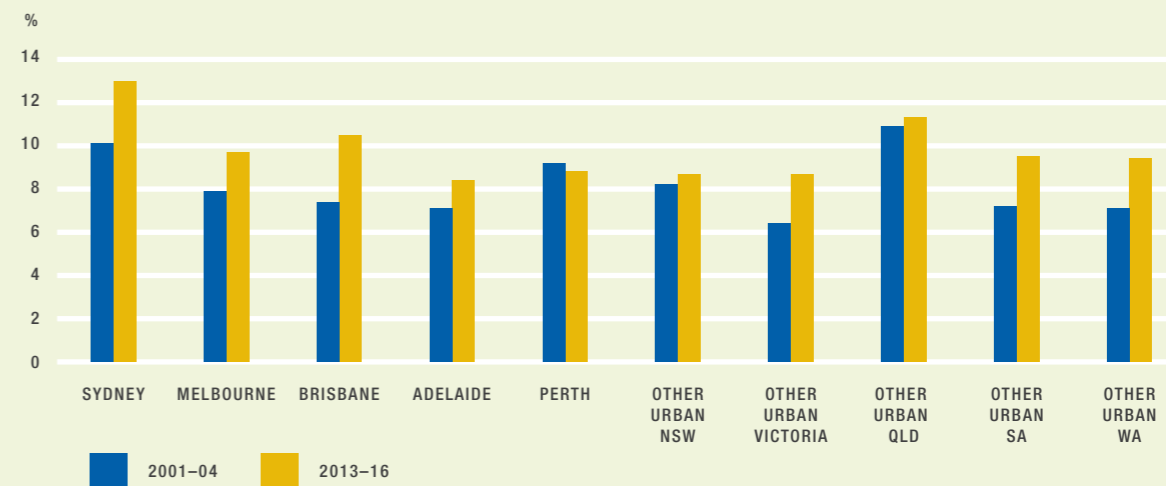
Stubborn poverty: The proportion of Australians living below the poverty line has remained stubbornly high over the last three decades – nine per cent of Australians are living below the poverty line.

Gender inequality: Australian women experience lower financial security than men – the gender pay gap is 14.6 per cent and the gender superannuation balance gap is 39 per cent.

Continuing jobs and income growth has underpinned stronger finances for many households. However, financial security remains uneven across the population and the nature of Australian households' finances present growing vulnerabilities in the event of an economic shock.

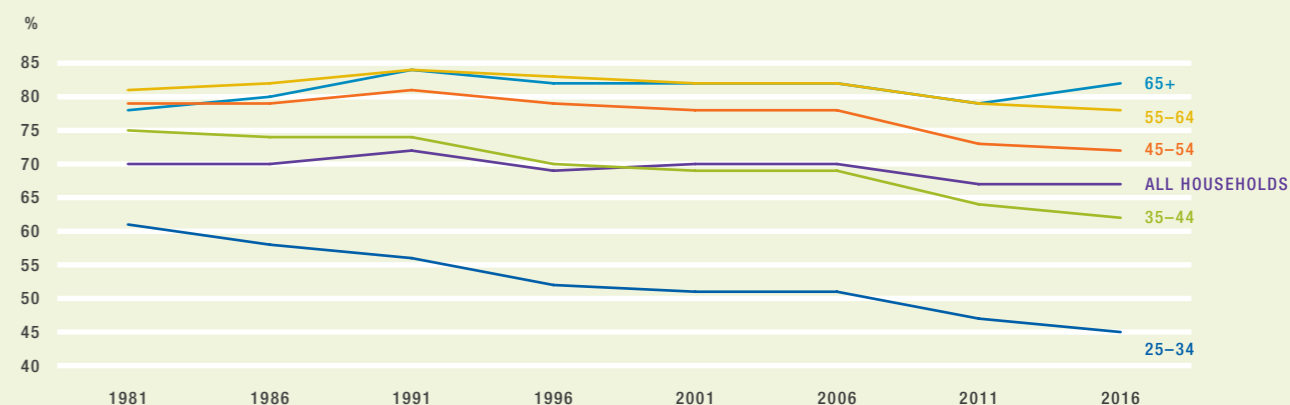
Women continue to experience lower financial security than men. In addition to the gender pay gap, which has shown slight improvement over the last 12 months, women's retirement income streams continue to lag men. For example, 67 per cent of women over the age

FIGURE 3.3 RATES OF HOUSING STRESS, BY REGION



Source: HILDA. *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 16*, p.49. NB. A household is in housing stress if housing costs are more than 30 per cent of disposable income and household income places the household in the bottom 40 per cent of the income distribution.

FIGURE 3.4 HOME OWNERSHIP RATES BY AGE OF HOUSEHOLD REFERENCE PERSON



Source: ABS, *Census of Population and Housing*.

of 15 have superannuation, with a mean balance of over \$68,000, compared to 73 per cent coverage for men and a mean balance of almost \$112,000.¹¹

As noted by the Productivity Commission, poverty has remained stubbornly high over recent decades with the relative poverty rate hovering around 10 per cent.¹² About three per cent of Australians have been in income poverty for at least the last four years.¹³

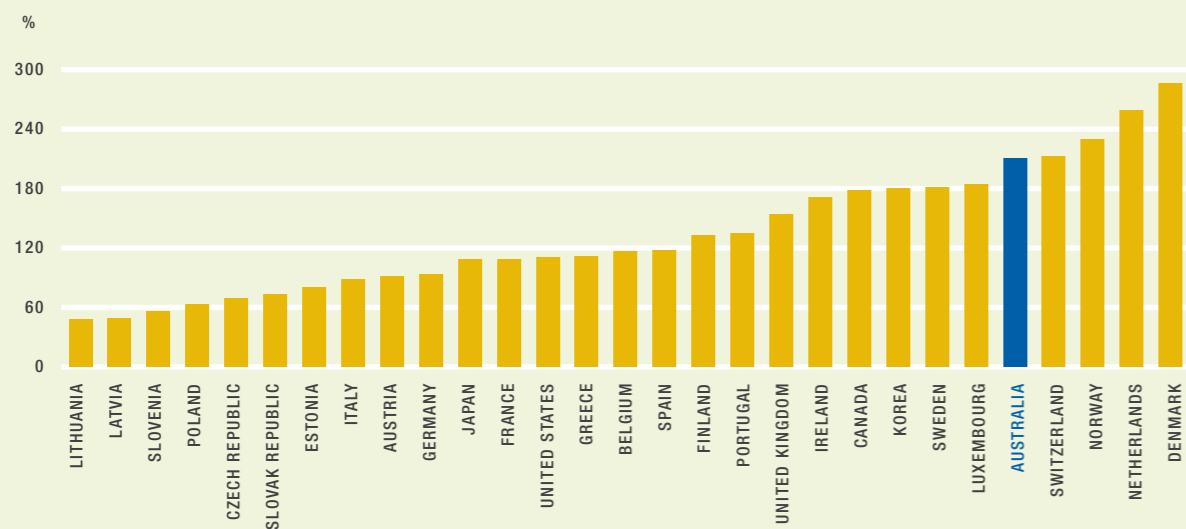
Housing has also been a source of both growing wealth and financial stress for households in Australia. As evident in Figure 3.3, rates of housing stress have increased across most localities over the last 15 years. Rates of home ownership have also declined, particularly among younger age groups.

FIGURE 3.5 RATIO OF HOUSEHOLD DEBT TO ANNUALISED HOUSEHOLD DISPOSABLE INCOME (%)



RBA, Household Finances – Selected Ratios.

FIGURE 3.6 HOUSEHOLD DEBT AS PERCENTAGE OF NET DISPOSABLE INCOME



Source: OECDStat.

Rising mortgage debt has also driven an increase in household debt over recent decades (Figure 3.5). Household debt to income ratios have been increasing across a number of advanced economies, driven by low interest rates and financial deregulation.

Australia's rate is comparatively high (Figure 3.6) as most rental properties are owned by households as opposed to corporations or cooperatives.¹⁴ As long as households have the capacity to service this debt then it does not present an imminent risk of financial stress. It is, however, an area of vulnerability in the event of an economic shock and is an area that is being closely monitored by the Reserve Bank of Australia.



Education

SNAPSHOT

Educational attainment is uneven: Forty per cent of young people from the lowest socioeconomic backgrounds do not complete Year 12. Sixty-six per cent of students from the highest socioeconomic backgrounds enter university compared to 25 per cent of students from the lowest socioeconomic backgrounds.

School resource disparities: Of all OECD countries, Australia has one of the largest gaps in the shortage of teachers between urban and rural schools.

Alternative paths to career entry are not adequately supported: Government funding for vocational education and training (VET) has fallen in real terms in the last decade, in contrast to other sectors.

Student performance is in decline: Australian students' results for science, mathematics and reading literacy, as recorded by the OECD Programme for International Student Assessment (PISA), have been in consistent decline across the last decade.

As noted in Chapter 2, Australia's education system has been critical to enhancing Australia's human capital and the productive capacity of the economy. Unfortunately, recent trends in education suggest that Australia may not realise the full potential of its human capital in the future.

In schools, Australia's average performance for reading, mathematics and scientific literacy has declined markedly over the last decade. Based on OECD Programme for International Student Assessment (PISA) rankings, since 2006 Australia has¹⁵:

- dropped six places for science to 14th
- nine places for reading literacy to 16th
- dropped 12 places for maths to 25th.

The OECD's *Starting Strong* report series shows that children attending more than one year of pre-school perform better on PISA. While almost all four year olds are enrolled in preschool programs, just 21 per cent of three year olds are enrolled in Australia.¹⁶ This underlines the opportunity for Australia to invest more heavily in early childhood education to ensure better long-term educational performance throughout life. This is particularly important for disadvantaged groups.

There are significant disparities in educational attainment both in school and university based on socioeconomic backgrounds and also in resourcing between urban and rural schools.

Alternative career entry paths for young people aside from university are being neglected. In the face of rapid changes in skills requirements and the need for a strong education sector at every level, government funding for the vocational education and training sector has fallen in real terms over the last decade.



Social cohesion

SNAPSHOT

Indigenous Australians continue to be left behind:

They are more likely to:

- suffer chronic health issues – e.g. are four-times more likely to suffer from diabetes
- be in juvenile detention – 24-times the rate for non-Indigenous youth
- fail to complete secondary school – there is a 40 per cent completion gap with non-Indigenous students
- have a weekly household income below \$1000 (20 per cent of Indigenous people have an income above this level compared to 41 per cent of non-Indigenous people).

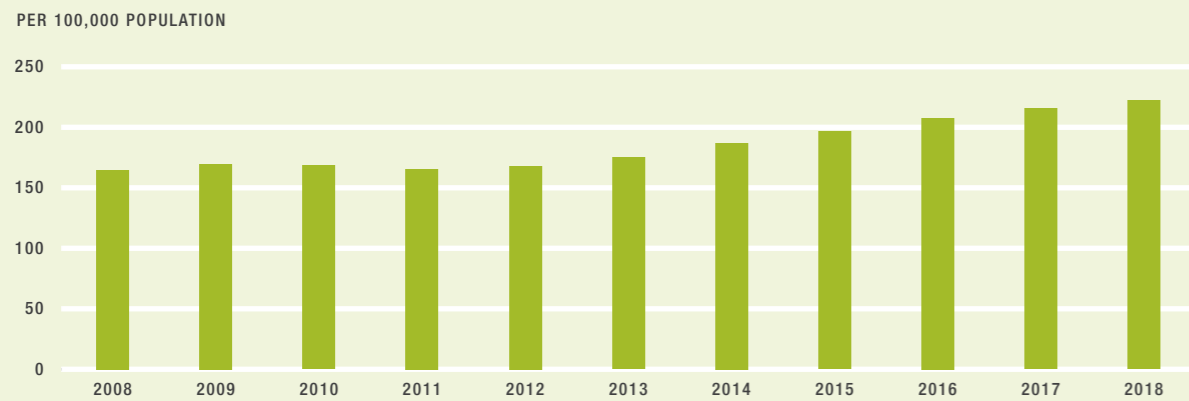
More people are in prisons: Australia's incarceration rate is high relative to other advanced nations and is rising – 216 adults per 100,000 population. Over half of prisoners released return to corrective services within two years.

Location dictates a person's future opportunities and prospects: Entrenched poverty and disadvantage is regionally concentrated. In NSW just 37 postcodes account for 50 per cent of the greatest disadvantage in the state.

While Australians are rightly proud of the nation's multiculturalism and the broad cohesion of our society, significant challenges remain.

Indigenous Australians continue to suffer considerable disadvantage, with the Prime Minister's most recent *Closing the Gap*¹⁷ report

FIGURE 3.7 TOTAL IMPRISONMENT RATE



Source: ABS, 2017, Prisoners in Australia. Catalogue No. 4517.0.

showing just three of seven targets on track. As can be seen above, Indigenous Australians continue to trail the rest of the population across health, juvenile detention, secondary school completion and incomes. Perhaps even more concerning is an apparent inability to make progress in identifying those policies and programs that work and don't work. The Productivity Commission estimates that just 34 of 1000 Indigenous programs have been properly evaluated.¹⁸

While Chapter 1 noted the general trend in reduced rates of crime, Australia is also placing a greater proportion of the population in prison (Figure 3.7). Some estimates suggest that Australia has not placed as many of its population in prison since 1901.¹⁹ The direct cost of incarceration is significant – estimated to be \$270 per prisoner a day in Victoria.²⁰ The significant cost is not driving better outcomes, with over half of prisoners returning to corrective services within two years.²¹

Prison admissions along with a range of other indicators of socioeconomic disadvantage are also geographically concentrated. In CEDA's *How Unequal? Insights on Inequality*, Patricia Faulkner demonstrated the significant geographic concentration of disadvantage all the way down to the postcode level highlighting the locational barriers to opportunity that exist in Australia.



Effective infrastructure

SNAPSHOT

Costs of congestion are growing: The avoidable social costs of traffic congestion in Australia's capital cities are estimated over \$16 billion, rising to \$30 billion by 2030. At the same time, road-related revenue bases are weakening.

Social infrastructure demands are growing: By 2025 an additional \$24 billion in capital costs and an extra \$13 billion in annual operating costs will be needed to meet projected gaps in residential aged care, in-home and community care and hospital beds.

Existing infrastructure is not being used efficiently: Better pricing mechanisms and the use of smart technologies provide the potential for better use of existing infrastructure.

Infrastructure project selection and planning needs improvement: Despite increasing infrastructure investment, Australia's quality of infrastructure lags other advanced economies (28th in World Economic Forum rankings). Infrastructure project selection and planning processes are not as rigorous and transparent as they should be, reducing value for money.

Merely increasing the stock of Australia's public infrastructure is not sufficient to provide amenity, opportunity and convenience for the community. Infrastructure must be well planned, managed, governed and executed to deliver the best outcomes with available funds.

The Productivity Commission has previously identified several weaknesses in relation to public infrastructure²², including:

- inadequate incentives and accountabilities to ensure that projects are properly analysed
- investment decisions not being driven by economic and social merit
- preferred projects being selected at an early stage, without change even when new information should change the assessment.

These weaknesses can be observed across a range of recently announced projects, which have cost estimates significantly lower than comparable projects and experience would suggest are reasonable.²³

Australia has also been relatively slow to adopt pricing mechanisms that would encourage more efficient use of and investment in infrastructure, including roads despite the growing social costs of congestion.

Roads are funded through a set of indirect fees and taxes including fuel excise and registration fees. Such a revenue base is not responsive to demand for roads and is not directly related to road use. In addition to inefficient outcomes for road use and investment, the revenue base is eroding and is unlikely to be sufficient to cover the costs of roads in the future without change.

In the case of fuel excise, recent analysis from the Parliamentary Budget Office (PBO) shows that this tax base has declined from 1.6 per cent to one per cent of GDP in the last 15 years. This has been driven in part by fuel efficiency and this trend looks set to continue with the increasing use of hybrid and electric vehicles.

Governments must also confront challenges in the provision of social infrastructure now. An additional \$24 billion in capital costs will be needed to meet a projected shortfall in residential aged care, community aged care, home and community care and hospital beds by 2025.²⁴ Furthermore, it is unlikely that this shortfall can be met by simply scaling up the health and ageing sectors, with a fundamental shift in service models necessary to meet growing demands in a sustainable way.



Competitive business

SNAPSHOT

Most businesses are not innovating: Less than half of all businesses in Australia report being innovation active according to ABS data.

Low research and development intensity: Business spends about one per cent of GDP on research and development placing it 22nd out of 36 OECD countries and around 65 per cent lower than the top five performers in the OECD.

Uncompetitive tax rate: Australia has the third highest statutory company tax rate in the OECD and ranks 50 out of 63 countries in the IMD World Competitiveness survey.

Increasing energy input costs: According to the ACCC, average commercial and industrial electricity prices increased by 52.5 per cent between 2007–08 and 2016–17.

The results of CEDA's *Community Pulse 2018* reflected some of the community's current concerns about business and their perception that large companies were the primary beneficiaries of Australia's long period of economic growth.

Declining levels of trust in business remain an ongoing concern, particularly in light of the revelations that have emerged from the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry. The Royal Commission's *Interim Report*

offers a blunt and concerning explanation for the misconduct it has uncovered: “Too often, the answer seems to be greed – the pursuit of short term profit at the expense of basic standards of honesty.”²⁵

Of course, not all industries are plagued by issues of misconduct yet community trust in Australian business has eroded across every sector. The 2018 Edelman Trust Barometer finds that just 45 per cent of the general population trust business, down from 48 per cent a year ago.²⁶ As noted in CEDA’s *Community Pulse 2018*,²⁷ if Australia’s business sector is to be competitive and vibrant, then businesses need to better connect their actions and activities to the aspirations and expectations of the wider community.

Australian businesses also face continuing commercial and policy challenges to their competitiveness. The recent ACCC inquiry into energy prices confirmed that businesses are absorbing significant increases in their energy costs. In addition, the recent company tax debate highlighted that other advanced economies were moving faster than Australia to reduce their statutory corporate tax rates, placing Australian companies at a disadvantage.

Examining changes in Australia’s competitiveness rankings using the IMD World Competitiveness Index suggests that at a broad trend level, the business environment in Australia has become less favourable over time.

It is also interesting to compare Australia’s relative levels of labour productivity to the United States over time.²⁸ This provides an indicative assessment of how productive Australian industry is against the economy widely acknowledged to be at the international productivity frontier for technology. While Australia will never fully close the gap due to structural differences between the two economies, the size of the gap is an interesting watch point over time. We have been narrowing the gap recently, but from a position of historically poor relative performance.

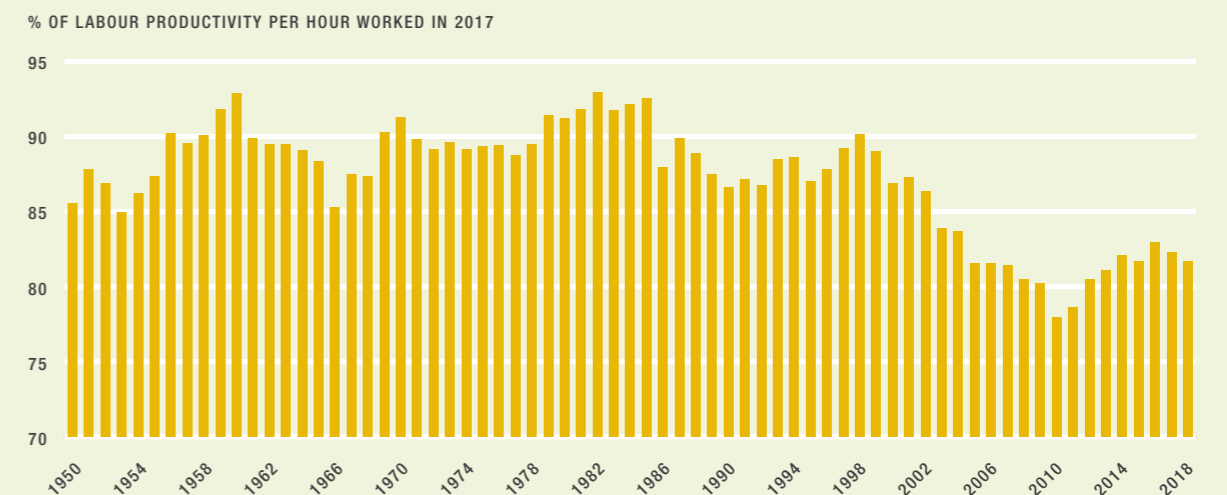
More businesses will need to innovate to lift Australia’s productivity and competitiveness. Recent data suggests that less than half of all businesses in Australia are innovating.²⁹ Around 17 per cent of Australian businesses introduced a new good or service in 2016–17, with three-quarters of these being innovations that were new to the business only.³⁰ A similar proportion of businesses introduced operational process innovations with over 87 per cent new to the business only.³¹ Australian businesses also lag most other OECD countries in their expenditure on research and development.

FIGURE 3.8 IMD WORLD COMPETITIVENESS RANKINGS OVER TIME



Source: IMD.

FIGURE 3.9 AUSTRALIA'S LABOUR PRODUCTIVITY RELATIVE TO THE UNITED STATES



Note: US\$ converted to 2017 price level with updated 2011 PPPS.

Source: The Conference Board, Total Economy Database.



Effective government

SNAPSHOT

Increased debt that will need to be paid for by future generations:

the Australian Government has now experienced 10 consecutive budget deficits and net debt is over 18 per cent of GDP.

Political instability at Commonwealth Government level:

Australia has had six Prime Ministers in the last decade, undermining the capacity of governments to undertake long-term economic reform and address intergenerational pressures.

Need for increased digital service delivery: Forty per cent of the estimated 811 million transactions businesses and households have with Commonwealth and state governments are completed using traditional non-digital means, despite a 40-fold higher transaction cost.

Large programs are failing disadvantaged Australians:

Government programs are not making progress on improving the lives of Australians with persistent disadvantage.

Need for improved data availability: Australia ranks lower than comparable economies for the openness of public sector data, undermining transparency and reducing the public benefits of data for the Australian economy.

Room for innovation: Just half of Commonwealth Government employees in a 2017 census agreed that their workgroup had implemented innovation in the previous 12 months.

The community has even less trust in government than it does in business. In Australia, 56 per cent of people believe that government is the most broken institution, compared to 42 per cent globally.³² This is a sobering, but hardly surprising result given that Australia has had six Prime Ministers in the last decade.

The underlying global and domestic political trends driving Australia's political instability have been thoroughly analysed and debated. As CEDA observed in 2013:

“There is widespread belief among CEDA members that Australia's recent policy-making has not been at a best practice standard. Some reasons that have been given for the presumed decline in quality of public policy debate and execution are:

- a heightened emphasis within governments on opinion polls and responding to perceived population opinion
- changes in the media landscape and its influence on public information
- Issues in the relationship between the public service and politicians.”³³

Whatever the reasons for instability, the net result does not change – federal governments have been largely hampered in executing major long-term policy reform. Recent attempts at tax reform are reflective of this, with policy development undertaken through major white paper processes in 2008 and 2015 both yielding very limited change and the latter process being abandoned completely.

Unfortunately, political instability has coincided with the accumulation of major policy challenges for the Federal Government. In addition to the challenges already outlined here in education, employment, infrastructure and business competitiveness, the Commonwealth Government has run 10 consecutive deficits with net debt now reaching over 18 per cent of GDP.³⁴ While the budget position has recently received a boost from better than expected economic growth, long-term pressures remain both in terms of the continuing reliance on personal tax receipts on the revenue side and continuing growth in health, aged care and social services expenditures.

There are also fundamental challenges to the traditional approaches to government program and policy development, which are now in need of innovation. Despite this, less than half of Commonwealth Government employees in a recent census believed that their teams had implemented an innovation in the last 12 months.³⁵

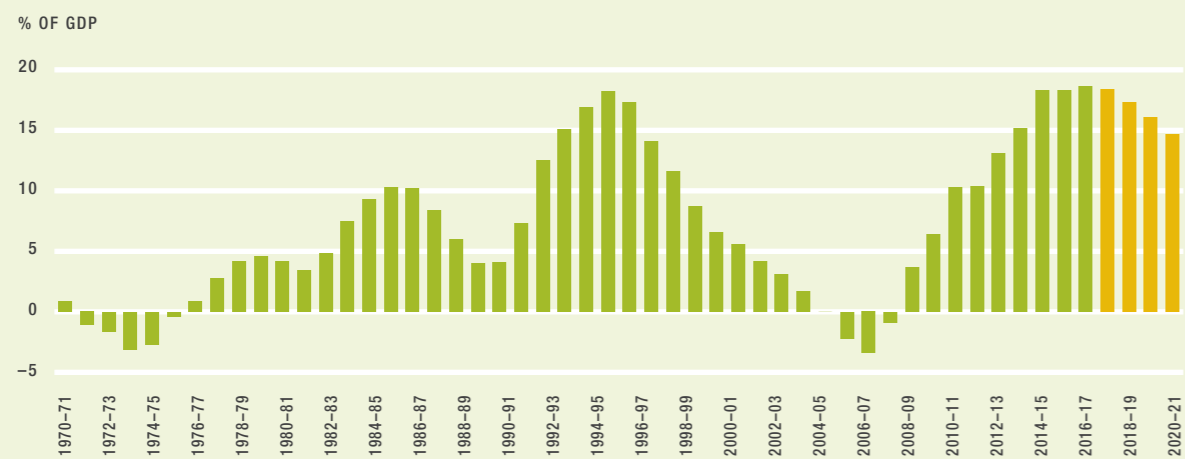
Understanding what is working well and what isn't is a critical precursor to continual innovation in public policy and programs. In recent decades evaluation has made less of a contribution to Commonwealth Government decision-making.³⁶ Australia also lags other countries such as the United States and United Kingdom in providing open access to public sector data.³⁷ This is a barrier to greater collaboration, research and innovation to policy and program delivery from outside the public sector.

There remains considerable scope for innovation in digital service delivery, with 40 per cent of the estimated 811 million transactions that businesses and households have with Commonwealth and state governments using non-digital means.³⁸ There is also a need for more tailored innovative approaches to program delivery for disadvantaged populations. In its recent research paper on inequality, the Productivity Commission concluded that for the three per cent of the population suffering from poverty, 'hand-made' policy solutions were required.³⁹

Some of Australia's most pressing challenges outlined in this chapter require cooperation between governments – whether it is infrastructure, health or education. While intergovernmental processes may not be broken, it has been a decade since the processes for coordination and collaboration between governments have been refreshed. The Productivity Commission notes:

“There is no sense of a national challenge needing collective effort towards solutions. And collective effort is core to lifting national productivity... states and territories are crucial partners if national reforms are to be effective.”⁴⁰

FIGURE 3.10 COMMONWEALTH NET DEBT



Source: Commonwealth of Australia data.



Global links

SNAPSHOT

Room for greater services trade: Services account for just over 20 per cent of Australia's exports, despite accounting for over 70 per cent of Australia's GDP and four in every five jobs in Australia.

Australia's trade relationship with some major emerging markets is underdeveloped: For example, India represents around three per cent of Australia's two-way trade relationship while Indonesia is just over two per cent.

Risks to support for Australia's openness: A recent Lowy Poll found that 72 per cent of people felt that there was too much investment coming from China, despite Australia's strong foreign investment controls and just 4.8 per cent of Australia's stock of foreign direct investment coming from China.

As noted in Chapters 1 and 2, Australia's openness to global trade and investment has been central to Australia's economic success. It would be difficult to argue that Australia's progress is falling short in this area, but there are certainly areas where further work can be done. For example, Australia is relatively light in services trade despite the dominance of the service sector in the domestic economy. We are also yet to fully realise the opportunities from rapidly emerging markets like India and Indonesia.

Australia has not been struck by the same level of protectionist sentiment pervading other advanced economies, but it will be important that broad support for open trade and investment continues.

There is a need for continuing vigilance on community support for foreign investment. The 2018 Lowy Institute Poll found that 72 per cent of people felt that there was too much investment coming from China.⁴¹ Similarly, CEDA's *Community Pulse 2018* survey found that strong regulation to limit foreign ownership of Australian land/assets was the second top national priority for respondents.⁴² This highlights the need to ensure that the public are well informed in debates about foreign investment. For example, just over 13 per cent of agricultural land is foreign owned and this has not changed markedly in the last decade.⁴³



Environmental stewardship

SNAPSHOT

No consistent policy to reduce emissions: Australia is yet to realise a stable or consistent carbon emissions policy, despite having the highest greenhouse gas emissions per capita in the OECD.

Biodiversity under pressure: The Australia State of the Environment 2016 report finds that Australia's biodiversity is under increased threat and that current initiatives are not keeping pace with current pressures.

Urban access to green space: One in five people in Melbourne and Perth do not have ready access to green space, while one in 10 do not have ready access in Brisbane and Sydney.

Australia faces considerable environmental challenges. Chief among these is establishing a credible and consistent policy for reducing carbon emissions following the challenges in progressing an emissions abatement component of the National Energy Guarantee (NEG). As CEDA noted in 2014, regardless of arguments about the how and why, if Australia does not respond with a scientific, evidence-based, appropriately funded policy, the economic consequences may be devastating.⁴⁴ This remains the case today, both in terms of the need for Australia to make its contribution to international efforts to reduce emissions and the need for clear and certain policies to guide investment decisions, particularly in energy and other emissions intensive sectors. The NEG was an important pathway to achieving this in electricity and had been backed by broad consensus.

Climate change is also one of the factors placing pressure on Australia's biodiversity. The Australia State of the Environment Report 2016 outlines a concerning assessment for biodiversity:

“The outlook for Australian biodiversity is generally poor, given the current overall poor status, deteriorating trends and increasing pressures. Our current investments in biodiversity management are not keeping pace with the scale and magnitude of current pressures. Resources for managing biodiversity and for limiting the impact of key pressures mostly appear inadequate to arrest the declining status of many species. Biodiversity and broader conservation management will require major reinvestments across long timeframes to reverse deteriorating trends”.⁴⁵

Green space will also support biodiversity. As Australia's population continues to grow, particularly in cities, maintaining environmental amenity through green space will be critical to liveability. Despite reasonable overall levels of green space in Australian cities and regional centres, there are still a significant proportion of people in our capital cities without access to green space – 20 per cent in Melbourne and Perth and 10 per cent in Brisbane and Sydney.⁴⁶ This means that large numbers of our population are missing out on the benefits of green space, including reduced morbidity, improved physical and mental health, and increased social cohesion.⁴⁷

SNAPSHOT REFERENCES

Health & Wellbeing: AIHW. 24 July 2018, *Diabetes Snapshot*, Available from <https://www.aihw.gov.au/reports/diabetes/diabetes-snapshot/contents/how-many-australians-have-diabetes> *Overweight & obesity*, Available from <https://www.aihw.gov.au/reports-statistics/behaviours-risk-factors/overweight-obesity/overview>, National Mental Health Commission, 2016 & Productivity Commission 2015, Efficiency in Health, Commission Research Paper, Canberra.

Jobs and participation: ABS, *Labour Force, Australia* Catalogue No. 6202.0, *Labour Force, Australia, Detailed - Electronic Delivery* Catalogue No. 6291.0.55.001, Disability and Labour Force Participation Catalogue No. 4433.0.55.006 & Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Closing the Gap Prime Minister's Report 2018*.

Financial security: ABS, Household Expenditure Survey, Australia: Summary of Results, 2015-16 Catalogue No. 6503.0, Gender Indicators, Australia, Catalogue No. 4125.0, Productivity Commission, *Rising Inequality? A stocktake of the evidence*, August 2018. RBA. Household Finances – Selected Ratios. ASFA Superannuation Statistics, June 2018.

Education: L.Perry. April 2018 'Educational Inequality in Australia' in *How Unequal? Insights on Inequality*, CEDA.

Social cohesion: ABS. Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016, Catalogue No. 2071.0 & Prisoners in Australia, 2017, Catalogue No. 4517.0 & Dropping off the edge, 2015. Available: <https://dote.org.au/findings/Table 1summary of findings from Dropping off the edge...Cont>

Effective infrastructure: BITRE. 2015, Traffic and congestion cost trends for Australian capital cities, Available from https://bitre.gov.au/publications/2015/files/is_074.pdf, PwC. 2018, Practical innovation: Closing the social infrastructure gap in health and ageing, Accessed from https://www.australianunity.com.au/~/_media/corporate/documents/media%20release%20pdfs/practical%20innovation%20closing%20the%20social%20infrastructure%20gap%20in%20health%20and%20ageing.pdf & World Economic Forum, The Global Competitiveness Report 2017–2018.

Competitive business: ABS. Innovation in Australian Business, 2016-17. Catalogue 8158.0, IMD. World Competitiveness Yearbook 2018, Available from <https://www.ceda.com.au/Research-and-policy/All-CEDA-research/Research-catalogue/World-Competitiveness-Yearbook-2018>, ACCC. July 2018, *Retail Electricity Pricing Inquiry—Final Report & Australian Innovation System Report 2017*.

Effective government: *Australian Public Service State of the Service Report 2016–17*, Deloitte Access Economics. 2015, Digital Government Transformation, p.1., Productivity Commission 2016, Data Availability and Use, Draft Report, Canberra, & Commonwealth Government Budget data.

Global links: DFAT. *Trade and Investment at a glance 2017 & 2018* Lowy Institute Poll.

Environmental stewardship: Jackson WJ, Argent RM, Bax NJ, Bui E, Clark GF, Coleman S, Cresswell ID, Emmerson KM, Evans K, Hibberd MF, Johnston EL, Keywood MD, Klekociuk A, Mackay R, Metcalfe D, Murphy H, Rankin A, Smith DC, Wienecke B (2016). Overview: Overview. In: *Australia state of the environment 2016*, Australian Government Department of the Environment and Energy, Canberra, <https://soe.environment.gov.au/theme/overview>, DOI 10.4226/94/58b65510c633b & Department of Prime Minister and Cabinet: Submission to House of Representatives Standing Committee on Infrastructure, Transport and Cities - Inquiry into the Australian Government's role in the development of cities.

ENDNOTES

- 1 Productivity Commission, 2015, *Efficiency in Health*, Commission Research Paper, Canberra.
- 2 Britt, H., Miller G., Henderson, J. et al., 2014, *General Practice Activity in Australia 2013–14*, Sydney: Sydney University Press.
- 3 Australian Health Policy Collaboration, 2016, *Getting Australia's Health on Track*. 2016.
- 4 Jackson H. and Shiell, A, 2017, *Preventive health: How much does Australia spend and is it enough?* Canberra: Foundation for Alcohol Research and Education.
- 5 National Mental Health Commission, 2016.
- 6 Input provided to CEDA by BeyondBlue.
- 7 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*, Commission Research Paper, Canberra.
- 8 OECD, 2017, *Connecting People with Jobs: Key Issues for Raising Labour Market Participation in Australia*.
- 9 Lowe, P, 2018, 'Productivity, Wages and Prosperity', Address to Australian Industry Group, 13 June.
- 10 Productivity Commission, 2017, *Transitioning Regional Economies*, Study Report, Canberra.
- 11 ASFA, 2018, *Superannuation Statistics*, September.
- 12 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 13 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 14 Bullock, M., 2018, 'The Evolution of Household Sector Risks', Address to AiGroup, 10 September.
- 15 Thomson, S., De Bortoli, L. and Underwood, C., 2016, *PISA 2015: A first look at Australia's results*. Camberwell: Australian Council for Educational Research.
- 16 Productivity Commission, 2018, *Report on Government Services*, Canberra.
- 17 Commonwealth of Australia, Department of the Prime Minister and Cabinet, 2018, *Closing the Gap Prime Minister's Report 2018*.
- 18 Steering Committee for the Review of Government Service Provision (SCRGP), 2016, *Overcoming Indigenous Disadvantage: Key Indicators 2016*. Canberra: Productivity Commission.
- 19 Leigh, A., 2016, 'Why is imprisonment rising when crime is falling?' *Sydney Morning Herald*, 11 November.
- 20 Victorian Ombudsman, 2015, *Investigation into the Rehabilitation and Reintegration of Prisoners in Victoria*.
- 21 Productivity Commission, 2018, *Report on Government Services 2018*. Accessed from: <https://www.pc.gov.au/research/ongoing/report-on-government-services/2018/justice>
- 22 Productivity Commission, 2014, *Public Infrastructure*, Inquiry Report No. 71, Canberra.
- 23 Productivity Commission, 2017, *Shifting the Dial: 5 Year Productivity Review*, Report No. 84, Canberra.
- 24 PwC, 2018, *Practical innovation: Closing the social infrastructure gap in health and ageing*. Accessed from: https://www.australianunity.com.au/~/_media/corporate/documents/media%20release%20pdfs/practical%20innovation%20closing%20the%20social%20infrastructure%20gap%20in%20health%20and%20ageing.pdf
- 25 Hayne, K., 2018, *Interim Report of the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry*. p. xix.
- 26 Edelman, 2018, *Edelman Trust Barometer - Australia Results*. Accessed from: <https://www.slideshare.net/EdelmanInsights/2018-edelman-trust-barometer-australia-results>
- 27 Committee for Economic Development of Australia, 2018, *Community pulse 2018: the economic disconnect*. Melbourne.
- 28 Dolman, B., Parham, D. and Zheng, S., 2007, *Can Australia Match US Productivity Performance?*, Productivity Commission Staff Working Paper. Canberra.
- 29 Australian Bureau of Statistics, 2018, *Innovation in Australian Business, 2016-17*. Catalogue 8158.0
- 30 Australian Bureau of Statistics, 2018, *Innovation in Australian Business, 2016-17*.
- 31 Australian Bureau of Statistics, 2018, *Innovation in Australian Business, 2016-17*.

- 32 Edelman, 2018, *Edelman Trust Barometer - Australia Results*.
- 33 CEDA, 2013, *Setting Public Policy*, p.7.
- 34 Based on Commonwealth of Australia data.
- 35 *Australian Public Service State of the Service Report 2016–17*.
- 36 Tune, D, 2010, *Evaluation: Renewed Strategic Emphasis*. A presentation to the Canberra Evaluation Forum. Canberra: Australian Government Department of Finance.
- 37 Productivity Commission, 2016, *Data Availability and Use, Draft Report*, Canberra.
- 38 Deloitte Access Economics, 2015, *Digital Government Transformation*, p.1.
- 39 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 40 Productivity Commission. 2017, *Shifting the Dial: 5 Year Productivity Review*, Report No. 84, Canberra. p.180.
- 41 Lowy Institute, 2018, Lowy Institute poll, June. Accessed from: <https://www.lowyinstitute.org/publications/2018-lowy-institute-poll>
- 42 Productivity Commission, 2018, *Rising inequality? A stocktake of the evidence*.
- 43 Irvine, D., 2018, Address to the International CEO Forum, 16 May. Accessed from: <https://firb.gov.au/2018/05/international-ceo-forum/>
- 44 CEDA, 2014, *The Economics of Climate Change*. Melbourne.
- 45 Cresswell, I.D., and Murphy, H., 2016, Biodiversity. In: *Australia state of the environment 2016*. Canberra: Australian Government Department of the Environment and Energy. <https://soe.environment.gov.au/theme/biodiversity>, DOI 10.4226/94/58b65ac828812
- 46 Department of Prime Minister and Cabinet: Submission to House of Representatives Standing Committee on Infrastructure, Transport and Cities - Inquiry into the Australian Government's role in the development of cities.
- 47 Kendal, D., Lee, K., Ramalho, C. Bowen, K and Bush, J., 2016, *Benefits of Urban Green Space in the Australian Context: A synthesis review for the Clean Air and Urban Landscapes Hub Final report*. Melbourne: The University of Melbourne



priorities for

AUSTRALIA'S

future progress

How do we deliver on the economic priorities?



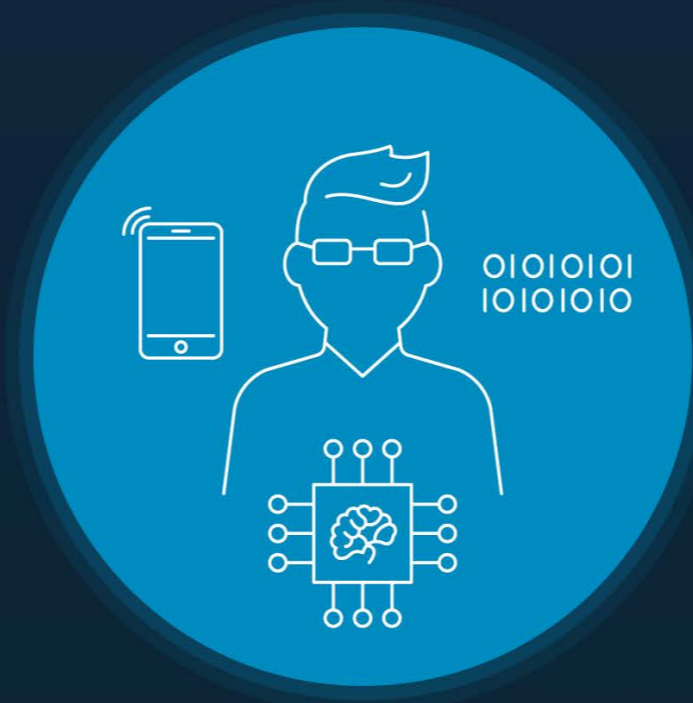
Critical services

Deliver critical services with better outcomes.



Population

Manage immigration, population and settlement strategically across governments.



Technology and data

Put people at the centre of policies to harness technology and data.

Enable effective take up and use of technologies and data.



Workplace, workforce and collaboration

Invest in skills for a lifetime of work and productivity.

Retain a strong and effective safety net.

Support productivity through engagement and collaboration in the workplace.



Institutions

Strengthen institutions and their role in economic development.

Foster collaboration across sectors and jurisdictions.

INTRODUCTION

If Australia is to secure future economic development that improves people's lives, where should policymakers, business, not-for-profits and the community begin?

The previous chapters have demonstrated that we are very capable as a nation of improving people's lives and we know the critical factors that have driven our past success.

But we also know that there are areas where we have fallen short and not achieved as much as we would like over recent decades, despite prolonged and continuous economic growth. Australia must also confront several future challenges.

An ageing population

There is no avoiding Australia's ageing population. As noted in Chapter 2, migration has helped to offset Australia's ageing to some extent, but the challenges of an ageing population have hardly gone away. As Demographer Dr Liz Allen notes in this chapter:

“The scale and future prospects of structural population ageing are the likes of which Australia has never seen, and to that end, Australia is faced with a demographic crossroad. The challenges associated with an ageing population can lead to opportunities potentially maximised through demographic and economic actions. Conversely, the pressures posed by a proportionally shrinking workforce could entrench intergenerational inequality.”

This will place increasing pressure on health and aged care services. Australia does not have a strong record in managing exponential increases in demand for such services. Already we see that policies and service delivery are failing to keep up in several areas. In aged care, homes accustomed to caring for people who have had a few years to live in the past are now expected to accommodate people with complex needs for much longer, with clear strains showing.

An ageing population will also see a lower proportion of Australians working. This will in turn place pressure on the Commonwealth budget, with older people contributing less to personal income tax, while at the same time drawing increasingly on expenditure and concessional tax arrangements.

Managing population growth

At the same time as managing an ageing population, Australia will also be managing a growing population. As Australia's population grows, we will confront major choices about where we live and how we live. These choices will determine how growth is planned and provisioned for, and how we experience economic development.

As noted in Chapter 2, population growth including through migration has been an important part of Australia's economic development, and we cannot afford to undermine support for it through poor planning. As Dr Liz Allen shows, this would have adverse impacts on Australia's old-age dependency.

Australia's population has consistently grown faster than projected. But this does not mean that we cannot do better in planning for growth to provide critical services, housing and infrastructure, in well planned and liveable cities and regions.

Productivity

Productivity will also be important to improving standards of living in the face of these demographic challenges. The term productivity is rarely used in public debate these days, but we must find a way to comfortably talk about it as a community rather than demonising or shying away from it. It will be the engine for improving people's lives in the future, as it has been in the past.

If we want our incomes to increase at the same rate they have in the past (two per cent a year on average), then productivity will need to grow at 2.5 per cent per year.¹ As seen in Chapter 2, productivity has been growing at 1.4 per cent on average since 2000. There is no avoiding this challenge if we want higher living standards in the future.

Emerging technology

The impacts of rapidly emerging technologies are only just beginning to materialise, but they will be an important part of meeting the productivity challenge. This wave of technological change will fundamentally alter the way that we live and work.

While the future may be difficult to predict, we should not passively accept or react to technological trends. This would risk Australia having a workforce unprepared for change, a regulatory framework that stifles innovation and competition, or fails to adequately protect human rights, and a tax system that no longer collects adequate revenue. Being unprepared could lead to ad-hoc policy interventions and undermine community trust in the genuine power of technology to drive improved standards of living.

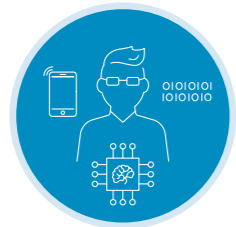
Eroding trust

As community trust in institutions and governance across the board erodes, Australians will need to find new ways to organise themselves to solve problems. As US tech entrepreneur Nick Hanauer suggests, “Prosperity should be defined as the accumulation of solutions to human problems...”².

Solving problems cannot simply be about looking to government, although it has an important role to play. The shortfalls and challenges Australia faces demand a far more constructive, collaborative and creative approach across all levels of government, business, workers, community and not-for-profit sectors. No one sector on their own can rebuild trust or deliver breakthrough solutions to problems that will improve people’s lives.

All of these challenges will have to be navigated amidst constant changes in the global environment, including geopolitical tensions, shifts in the global economy and continuing globalisation.

Based on these challenges and what we know about Australia’s past economic development, CEDA sees five core questions for securing Australia’s future economic development:



1. Technology and data:

How do we put people at the centre of policy to harness the full benefits of emerging technologies and data?



2. Workplace, workforce and collaboration:

How do we invest in skills for a lifetime of work, retain a strong safety net and support productivity through engagement and collaboration?



3. Population:

How do we manage immigration, population and settlement strategically across governments?



4. Critical services:

How do we deliver critical services with better outcomes?



5. Institutions:

How do we strengthen institutions and their role in economic development?

These priority areas are phrased as questions here, because we strongly believe that securing future economic development that genuinely improves people’s lives requires us to first step back and ask the right questions. That is, what are the problems we are trying to solve and the outcomes we are seeking as a society?

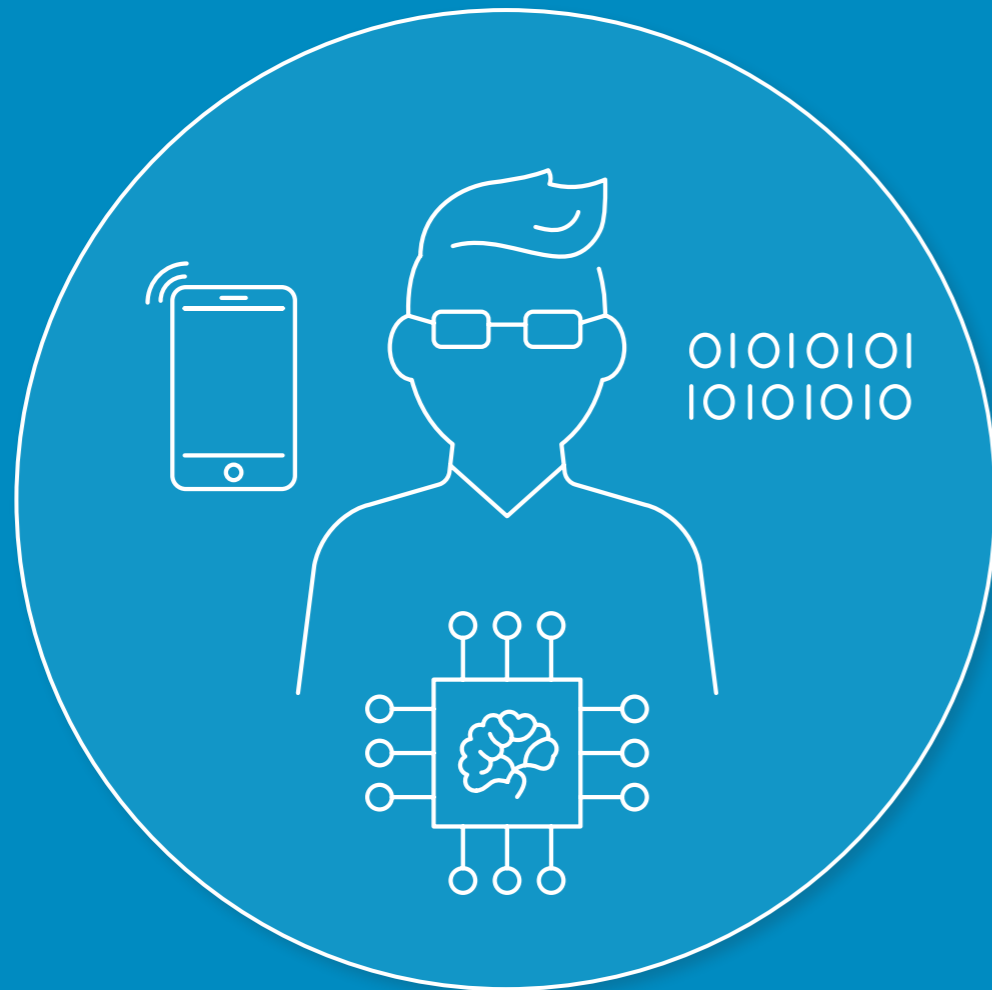
This may seem obvious, but too often current debates are immediately narrowed to what we have done in the past or the most readily available solution to address calls for action. Australia can and must navigate challenges on a much broader canvas to find enduring solutions to complex problems.

Securing future economic development

The remainder of this chapter expands on the five questions and what they imply for future economic development, including the areas in which CEDA believes it can play an important role in advancing reforms. We have also assembled external perspectives on how Australia might tackle these issues in the future.

These priorities may not directly address all the issues outlined in this report, but they will be strong enablers of solutions that secure future economic development.

Each of these priorities is designed to provoke discussion and debate, rather than provide definitive solutions. CEDA will undertake more detailed work under these themes through its future research agenda and events to progress solutions.



4.1 Technology

Question for future economic development:

How do we put people at the centre of policy to harness the full benefits of emerging technologies and data?

WHY IS TECHNOLOGY A PRIORITY FOR ECONOMIC DEVELOPMENT?

Technology is central to efforts to raise productivity. Australia's rapid uptake of information and communications technologies in the 1990s relative to other countries contributed to our strong productivity growth.³

Technologies such as machine learning, the Internet of Things and abundant computing through the cloud represent Australia's next opportunity to lead global technology adoption. Technological advancements will be fundamental to improving Australia's performance across the elements of economic development outlined earlier, whether it is health, infrastructure or effective government. As Hugh Bradlow suggests in Perspective 1:

“If we want world-class transport systems, health systems, agricultural systems and financial systems it is essential that our economy aggressively adopts this progression of abundant computing (cloud systems), abundant data (sensors) and smart analytics (machine learning).”

The possibilities of technology improving everyday lives and boosting economic progress are significant and include advances like earlier diagnosis and prevention of disease with precision medicine, sensors in cities to manage congestion and commuter safety and vertical farming techniques to reduce resource needs.⁴

But the opportunities and benefits for Australia's economic development are greater than sectoral innovations alone. The diffusion of new technologies across the whole economy has the potential to free up time and resources, and make work safer and more fulfilling. This is why companies already see the adoption of emerging technologies as being necessary to obtain or sustain competitive advantage.

TECHNOLOGY – CURRENT ISSUES

Up until now, Australia like much of the rest of the world has been heavily focused on identifying and analysing key technological trends and impacts. There has been far less focus on preparing Australia's policy frameworks to best support investment, adoption and confidence in rapidly emerging technologies.

This is important because as powerful and beneficial as the next wave of emerging technologies will be, there will also be unintended consequences that must be managed. As Hugh Bradlow suggests, "We have powerful new tools to address poverty, healthcare, climate change, urbanisation but in isolation from a progressive legal, tax and social system, those tools will be our undoing."

The good news is that Australia is beginning to make this transition, with a number of recent policy processes and announcements focused on how Australia may need to bolster its policy frameworks. This includes:

- the Human Rights Commission examining the impact of new technologies on human rights, including the use of Artificial Intelligence-informed decision-making in the targeting of advertisements, criminal sentencing and job screening
- the Chief Scientist proposing a Turing Certificate for companies to identify the trusted and certified use of Artificial Intelligence that is regularly audited for ethical quality
- a Senate Select Committee considering in detail the impact of emerging technologies on the future of work and workers, making 24 policy recommendations
- the Australian Competition and Consumer Commission (ACCC) conducting an inquiry into the impact of digital platforms on media and advertising markets.

The rise of digital technologies and platforms facilitated by data also raises fundamental questions about how competition policy should respond. Companies can potentially exercise significant market power based on their control of multiple platforms and the data that flows through these platforms.⁵ The concentration of large amounts of valuable data in the hands of a few firms does raise competitive risks – for example, these companies can use this data and their platforms to divert users from their competitors' products and services.

European competition authorities have already imposed various fines and penalties in cases against some companies, while US regulators have been far less interventionist to date. An over-zealous regulatory response may be a risk, but the counter risk is consumers losing confidence in how their data is being used and withdrawing it altogether. Trust is critical to empowering consumers and giving them the tools to benefit from digital technologies.

Australia's Chief Scientist Alan Finkel has captured this central challenge of finding the right regulatory balance when discussing his approach to standards for Artificial Intelligence:

"We could conceivably come to a set of norms by trial and error – or scandal and response. But in a febrile environment, intellectual coherence is unlikely to emerge by lurching from one crisis of confidence to the next."⁶

There is a case for a thorough assessment of the risks involved, their likelihood and the possible regulatory responses, and putting in place the guide rails for new regulatory frameworks sooner rather than later.

The tax and regulatory frameworks we adopt for new technology must also be cognisant of global developments.

The OECD and Group of Twenty (G20) has invested considerable effort in progressing multilateral tax reform to address base erosion and profit shifting, including as a result of the increasingly borderless nature of digital commerce. Nonetheless, considerable challenges remain as progress has been slow and countries are already going it alone with stop-gap responses to protect their revenue bases. The European Commission intends to levy a three per cent tax on the turnover of digital companies earning significant revenues in Europe before the end of the year.⁷

The Australian Government is considering how it might increase the tax revenue it earns on digital advertising in Australia. This follows previous unilateral laws such as the Diverted Profits Tax. While it is understandable that governments are seeking to avoid erosion of their corporate tax bases, unilateral approaches increase the risk of double taxation between countries and significantly increase complexity. This is in effect, the trial and error approach.

There is debate regarding why digital technologies have not already lifted productivity much higher across advanced economies and whether the emerging technological advances we experience will be equivalent to past industrial revolutions. Some such as Robert

Gordon are pessimistic about the gains from this latest technological transformation compared to past industrial revolutions.⁸ Others such as Martin Feldstein argue that government statistics underestimate productivity growth and are subject to measurement error.

Technology experts and economists like Erik Brynjolfsson, Daniel Rock, and Chad Syverson argue that it will simply take time to see the productivity gains, with a major reconfiguration of society needed to accommodate new technology.⁹ Previous research by the OECD has examined the drivers of digital adoption and diffusion for selected technologies across 25 industries in 25 European countries between 2010 and 2016.¹⁰ It found "...strong support for the hypothesis that low managerial quality, lack of ICT skills and poor matching of workers to jobs curb digital technology adoption and hence the rate of diffusion."¹¹

These latter arguments and findings seem intuitive. After all, how is the community expected to confidently exploit the benefits of technology in the absence of robust skills and regulatory frameworks?

TECHNOLOGY – CEDA'S PRIORITIES AND FOCUS

Australia should put people at the centre of policy to harness the full benefits of emerging technologies. CEDA will seek to support this by focusing its analysis and advocacy on:

- best practice regulatory and stewardship approaches to encourage the adoption of new technologies, innovation and new market entrants to benefit consumers
- adoption and promulgation of ethical approaches to the use of AI, machine learning and data use, including peer review and scrutiny of algorithms and their outcomes in practice
- the promotion of data access and use to enhance efficiency in government service delivery and greater accountability for outcomes and performance
- contributing to and enabling new models of engagement and collaboration across sectors and building knowledge and capabilities to understand the opportunities and challenges presented by emerging technologies.

TECHNOLOGY PERSPECTIVE ONE

Digital transformation is essential, but...

Professor Hugh Bradlow

For Australia to continue to be a successful democracy with a vibrant economy in the 21st century, it is essential we maintain our well-earned reputation for astute technology adoption. In the coming decades this is about riding the ever-swelling wave of digital technology.

Today, many businesses mistakenly assume digital transformation is a web presence, an e-commerce site or perhaps a mobile app. However, digital transformation requires a complete redesign of our customer and operational processes to change the way we conduct business. As a simple example, instead of running our own data centres, we should avail ourselves of the economies of scale of the cloud.

A new wave of digital transformation is emerging. The so-called Internet of Things is enabling us to use cheap, low power, tiny sensors to measure the physical world around us (including our bodies) and transmit those measurements into cloud systems that

enable the analysis of our environment. Measurement and analysis then allow us to exert an unprecedented amount of control over our physical world, especially when that analysis is capable of emulating functions that previously only humans could perform. This latter capability, mistakenly described as Artificial Intelligence (AI), but more correctly referred to as machine learning enables machines to recognise patterns in a human-like fashion.

Even if we discount the massive hype that AI has generated, this is an important capability particularly in the context of machine vision and speech recognition. It enables us to automate all sorts of functions such as driving a vehicle, diagnosing an X-ray, recognising a skin cancer, identifying areas where crops are failing to thrive and many, many more.

If we want world-class transport systems, health systems, agricultural systems and financial systems, it is essential that our economy aggressively adopts this progression of abundant computing (cloud systems), abundant data (sensors) and smart analytics (machine learning). Our businesses need to be constantly planning for the disruption these technologies will cause to their activities, and our governments need to be identifying the new regulations to be instituted to keep our economy transparent and effective.

It is in this latter regard that we need to think about the *but*. Digital technology has two unintended and undesirable consequences:

- significant disruption to the job market
- massive concentration of wealth and power.

With regard to the former, economists love to produce macroeconomic studies showing that increases in productivity (which is really what technology adoption achieves) result in overall job growth and they see no reason why this will not be the case with the current round of emerging technology. But in this instance an extrapolation of the past is particularly dangerous.

Even if there is overall job growth it is clear that the people who are being displaced from today's jobs do not have the skills for tomorrow's jobs. The populist movements in western democracies (including our own) are not a reaction to *globalism* but to *technologism* – it is just that the people supporting these movements don't understand – yet – that it is technology taking their jobs, not immigration.

As digital transformation evolves, we need to ensure that we do not leave large numbers of people behind and today's social welfare environment is not adequate for the task.

We need new ideas and new solutions, including for the increasing concentration of wealth. In the US today, 50 per cent of household income comes from wealth and 60 per cent of that wealth is inherited¹². Those are disturbing figures, but digital technology creates new forms of wealth concentration through data and intellectual property, so this trend is going to get worse. The richest one per cent will control an increasing proportion of the country's wealth unless we do something about it.

Clearly our tax system needs a radical overhaul. However, anyone who thinks that the simple expedient of lowering corporate tax is a fix is sadly deluding themselves. Again, drawing on the US experience, since the Trump corporate tax cuts, wages have hardly moved but share buybacks have doubled¹³. All that the corporate tax cuts have achieved is to feed the growing concentration of wealth. While corporate tax cuts may have a role, a simplistic measure such as this done in isolation from the overall tax system is not an answer.

Any discussion on the distribution of wealth tends to raise a series of spurious and self-interested arguments against change such as "it kills incentive". Besides the fact that there is absolutely no data to show this to be true, I defy anyone to tell me that if we capped individual wealth (pick a number, it does not matter), we would kill anyone's incentive.

We live in exciting times. We have powerful new tools to address poverty, healthcare, climate change, urbanisation but in isolation from a progressive legal, tax and social system, those tools will be our undoing. I have faith that Australia has the moral outlook to rise above these challenges and to be the leading country of the late 21st century.



4.2 Workforce

Question for future economic development:

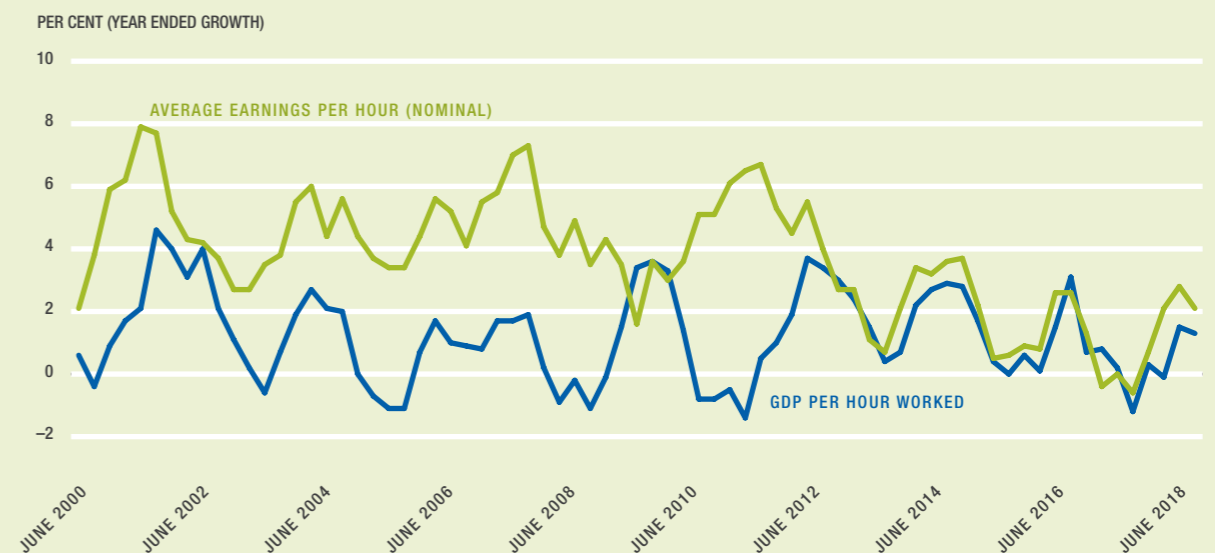
How do we invest in skills for a lifetime of work, retain a strong safety net and support productivity through engagement and collaboration?

WHY IS WORKFORCE A PRIORITY FOR ECONOMIC DEVELOPMENT?

As noted in Chapter 2, Australia owes much of its economic success to its people. It is ultimately people who will determine the success of Australia's organisations – how well they compete, act ethically and meet community expectations. As the RBA Governor has previously suggested, Australia's future prosperity and competitiveness depends on our national capacity for high-level cognitive skills, intellectual curiosity, interpersonal skills and having a culture that rewards creativity, innovation and entrepreneurship.¹⁴

Work is also central to how people experience economic growth – having meaningful and safe work with appropriate rewards matters for financial security and wellbeing. CEDA's *Community Pulse 2018* also found that job security is the most important employment-related issue for the community. That security can be underpinned through individuals being given the best opportunities to succeed in the workplace – the right skills, education, good management, culture and fair rewards.

FIGURE 4.1 LABOUR PRODUCTIVITY AND AVERAGE EARNINGS (NON-FARM)



Source: ABS, September 2018, *Australian National Accounts, June 2018*, Catalogue No. 5204.0.

As evident in Section 4.1, people will only adopt and fully realise the productivity benefits of technology if they are appropriately equipped. These productivity benefits are important. Australia's ageing population means a slower growing workforce in the future, underlining the importance of working smarter and lifting Australia's rate of labour productivity growth. While the causes of recent low wage growth are not straightforward (as explored in Chapter 3), stronger productivity growth could provide some upward momentum for wages in the years ahead.

WORKFORCE – CURRENT ISSUES

At the headline level, Australia's labour market looks relatively strong with over 300,000 jobs created in the last 12 months and the unemployment rate now at five per cent.¹⁵ Underneath this, there are a range of medium and long-term challenges that Australia will need to confront if Australia's workforce is to perform at its best.

Australia's skills and education system has been the backbone of our modern and highly skilled workforce. But these systems will need to evolve to equip Australians for the future workplace. For example, 65 per cent of children entering primary school today will work in completely new job types that don't yet exist.¹⁶ As Professor Attila Brungs writes in Perspective 4, "...educators will need to develop a new generation of learners, for whom a career of 20–30 jobs is not just normal but welcomed."

The education system will also need to deliver a better alignment between the skills of graduates and the needs of Australia to compete in a global economy. For example, the OECD has found that Australia's skills base is an impediment to greater participation in global value chains. In addition, the *Graduate Outcomes Survey* shows that it has taken university graduates longer to gain a foothold in the labour market in the last decade, and over 40 per cent of those with undergraduate degrees report not fully utilising their skills and education in their job.¹⁸

There will also be an increasing need for multiple paths to enter study and careers, and the capacity for rapid upskilling of displaced workers. As noted in Chapter 3, vocational education and training has not benefitted from any real increase in government expenditure

over the last decade. Education providers will need to provide accessible, digestible and modular learning that can occur alongside on the job training for students to gain early exposure to the rapidly evolving needs of modern workplaces.

For those already established in the labour force, this modular approach to learning will be an important aspect of lifelong learning. By 2030, workers will spend 30 per cent more time per week learning skills on the job.¹⁹ Even if the content and modes of delivery for lifelong learning are right, it raises critical questions about the roles of different parties in pursuing that training. The Director-General of the International Labour Organization, Guy Rider recently noted that, "We cannot leave access to and financing of learning to individuals alone."²⁰ Ryder suggests it will require a rights-based approach. A successful approach requires cooperation across governments, business, education providers, workers and their representatives.

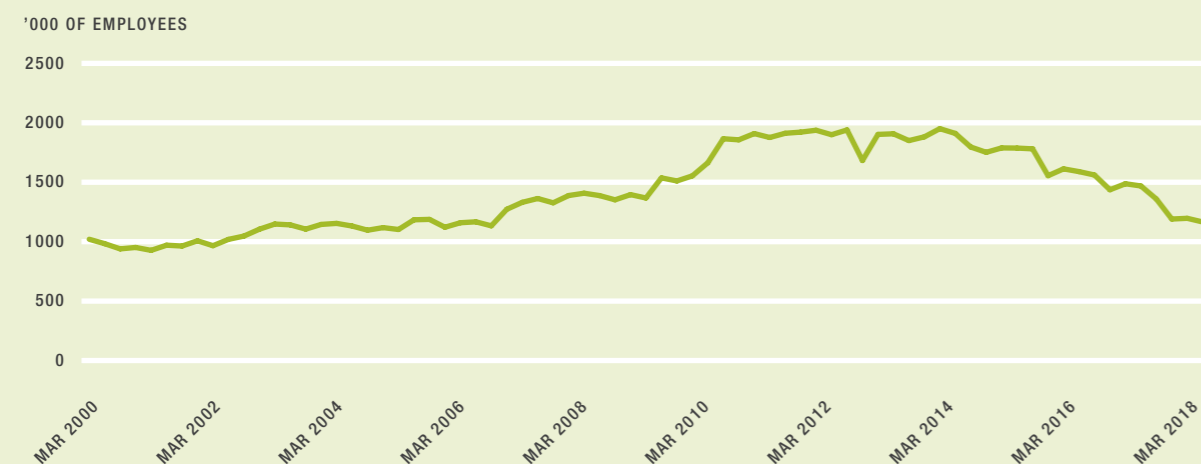
Australia will also need to boost its efforts to bring more Indigenous people, long-term unemployed, people with a disability, older Australians and women into the workforce. Professor Brungs notes that "...due to its ageing workforce demographics, Australia's economy will need every worker as well as the productivity gains that might be achieved through this automation."

As noted in CEDA's *How Unequal? Insights into inequality*, getting the long-term unemployed and people with complex needs back into work will require far more tailored solutions than what is currently available through the Australian Government's JobActive model.

Having as many people as possible fully engaged in working smarter with technology also requires the right workplace environment. Australia will soon have five different generations in the workforce, all with different expectations and workplace preferences. There has also been growth in forms of employment beyond full-time permanent roles, including part-time jobs that now account for over a quarter of total employment and independent contractors over eight per cent.²¹ This has raised questions around employment conditions including appropriate job security, protection and entitlements, particularly for the small but growing contingent of gig workers.

Discussions regarding productivity in the workplace in Australia inevitably touch on the workplace relations legislative framework.

FIGURE 4.2 NUMBER OF EMPLOYEES COVERED BY CURRENT ENTERPRISE AGREEMENTS (PRIVATE SECTOR)



Source: Department of Jobs and Small Business. July 2018. Accessed from <https://docs.jobs.gov.au/documents/historical-table-current>

One of the primary vehicles for business and workers coming together to progress productivity improvements historically has been the enterprise bargaining system. As can be seen from Figure 4.2, this system that has been in decline for at least the last four years.

While the underlying legislative framework and safety net for workers' rights is an important part of Australia's workforce jigsaw.

The productivity and effectiveness of workplaces, including managerial competence, organisational culture, structure and communication. As noted previously, these issues have a profound impact on how effectively new technology is applied in the workplace.²²

In the last decade, Australia has struggled to have a joined-up conversation about working smarter, with all the stakeholders involved and full scope of issues covered.

As Andrew Dettmer suggests in Perspective 2, there is a genuine appetite for workers to be part of a discussion about how to build a stronger economy. Equally, it is clear from Peter Coleman in Perspective 3 that many businesses understand the importance of communication and dialogue across their workforce.²²

Despite this, there is very limited dialogue across multiple stakeholders about how workers and business can better collaborate to work smarter. There is no opportunity for a much broader discussion on skills and training, and a genuine dialogue about how organisations and their employees can work together to lift workplace productivity.

Achieving a genuine dialogue across the full range of issues confronting Australia's workforce is critical not just for lifting productivity and wages, but for ensuring that Australia realises its full potential and that Australians feel like they are contributing to that through meaningful work.

WORKFORCE – CEDA'S PRIORITIES AND FOCUS

We must invest in people as our greatest asset, enabling skills for a lifetime of work, productivity through positive workplace engagement, and a strong and reliable social safety net. CEDA will seek to support this by focusing its analysis and advocacy on:

- the development of a learning system that enables lifelong learning, with clarity around the roles of the individual, employers, government and education providers
- enabling effective employer-employee collaboration in support of the adoption of new technologies, job creation, higher productivity and wages; and the evolution of workplace regulations to support this
- examining and addressing issues around organisational management and performance and Australia's investment in organisational capital and the competence of management
- Australia's social compact (the tax-transfer system and workplace regulations and protections) to ensure it will continue to deliver effective outcomes considering changing technologies, business models and employment patterns and trends
- programs targeting those persistently unable to gain and retain employment
- new models and approaches for achieving improved educational outcomes for low SES and disadvantaged schools to reduce the prospect of sustained under employment.

Roads to success

Andrew Dettmer

President, Australian Manufacturing
Workers' Union

What makes for a successful business?

A listing on the ASX 200? A great bottom line which leads to headlines in the financial press?

Or is it a long-term, inclusive view of growth, which allows the business to expand its sales and profits while also building its relationships and its public reputation?

The workers of Australia have been badly let down in recent years, by successive governments and business leaders. When we have sought a place at the table to discuss how to build a stronger economy and a stronger society, our right to do so has been denied, either through legislation, or by simple neglect. Yet representatives of Australian companies often come out with the trope, "Our greatest asset is our people".

As Cool Hand Luke was told in the classic 1967 film, "What we have here is (a) failure to communicate."²³

When workers consider upcoming changes in industries they work in, they typically worry that those changes will not include them, and that their concerns will not be taken into account in any consideration of the future of work, their company, or the broader economy.

To date, the facts would seem to imply that they are correct: the closure of Australia's car assembly plants, continued casualisation, the proliferation of the gig economy, and closure of TAFEs and other vocational education providers: none of these developments provide hope for workers that they will be treated like genuine stakeholders in our economy. And with wages going backward – the labour share of GDP has been declining for years and fell another 0.15 percentage points in the June quarter²⁴ – workers' suspicions are given added weight.

Industry 4.0 is a popular term that encapsulates the latest changes to technology and the organisation of production, especially in manufacturing. It is often used to describe the introduction of cyberphysical systems and the accompanying deployment of Artificial Intelligence (AI). Australian industry and society need to embrace Industry 4.0 and its potential to lift productivity, innovation, and the quality of work life.

Unfortunately, however, workers often reject an optimistic and inclusive vision of how Industry 4.0 could enhance their firms, their sectors, and their lives. Given the disdain with which workers' interests are treated in Australian policy discussions, this reaction is understandable.

The dialogue about adjustment, retraining, and opportunity which should be at the heart of Australian industry policy is often dismissed as a distraction from employers' more narrow needs – the unstated assumption being that to be more productive, employers need to be making unilateral, bold decisions and workers should simply be carrying them out.

This thinking reflects the early 20th century view of industrial organisation known as Taylorism. Although rarely discussed today, Taylorism reduces work to its most easily divisible and repetitious parts. While this is hardly innovative, many workplaces see this as the ideal; witness Amazon²⁵.

This notion of “put up or shut up” still permeates management thinking in some spheres. It is the assumption that management knows best. It is as paternalistic and condescending as the term implies. And it holds back genuine innovation and productivity enhancements in the long term.

Instead, what typifies the best, most productive and innovative companies is an ability to harness the innovation of their most precious asset: their workers.

Many politicians seem to be scared to confront these issues, or if they do it is only to give pat responses. Yet it's certain that unless workers get a genuine place at the table the situation is unlikely to change for the better.

For many years it has been known that increasing the engagement of the workforce increases productivity. This is not an ideological plug; in 2000, the Superannuation Trust of Australia (now Australian Super) commissioned a study, *The Future of Investing in Manufacturing*. The five success factors identified by that study were: a commitment to growth at the most senior levels of a company; investment in new products, engineering, and R&D; worker involvement based on trust; an international focus; and responsible leadership from the top, with commitment to their workers.²⁶

This sensible vision has been ratified by other research, which emphasises the importance of inclusive workplace culture, genuine internal dialogue, and basic worker security for the processes of technological and organisational change. When workers feel secure, and know their voice is respected, is precisely when they will participate most actively and constructively in the processes of innovation and continuous improvement.

It is incumbent on all parties to defang the false idea that Industry 4.0 is just a job killer. We need to remove the automatic assumption that robots equal unemployment. Employers and governments of all persuasions will only be able to do this if workers and their representatives are brought into the picture, and not in some token or formalistic way.

Frey and Osborne's original estimation, that 47 per cent of all jobs are highly susceptible to computerisation, has been comprehensively debunked. In a recent paper, the OECD showed that it is more like 11 per cent of jobs that could be negatively affected – and even that doesn't count the potential jobs that could be created by new technology²⁷.

While this is no cause for celebration, it at least indicates that technological change is a more manageable challenge to workplace, industries and society as a whole. The equation robots = unemployment makes many workers, especially older workers, fearful. An AMWU survey in 2013 showed that less than 12 per cent of union delegates are regularly consulted about their company business plan²⁸. It is unlikely that this proportion has increased since.

Workers know that trust and consultation must be accompanied by a genuine commitment to lifelong learning. And you can't do that by closing TAFE colleges and privatising vocational education.

Workers without up-to-date skills are condemned to be replaced by machines; paradoxically, as Nedelkoska and Quintini point out, low value jobs will continue to be performed while there is a need for the goods or services produced, but jobs of intermediate value are at high risk.

These jobs are the ones which will benefit most from increased training and skills. Workers in low value jobs need to be retrained in work which will enable the workers thus engaged to transition to higher value, more skilled jobs.

The need for greater and better engagement of workers is illustrated by the success of Western European companies, most notably in Germany. With a strong manufacturing sector, a strong union movement, and good bargaining outcomes (not limited by the lawyers' barbecue which is the Fair Work Act), productivity is improving, investment and output are increasing, and innovation continues apace. Yet the only question often asked by Australian employer representatives of their German counterparts is, why do unions have to be involved?

There are a few Australian companies which are following this tried and true model: Agilent Technologies, producer of sophisticated scientific and medical equipment, has a track record of vigorous and engaged consultation with its workforce and union. Likewise, Marand Precision, based in Moorabbin, Victoria that produces sophisticated engineering solutions in rail, defence and automotive, is world-leading in its application of technologies, and works in consultation with its skilled engineering staff to develop new solutions for these industries.

In sum, we shouldn't accept the dystopian view that technology ultimately translates into mass unemployment and polarisation. Nor should we ever accept the knee-jerk assumption that only management knows best how to integrate new technology into Australian workplaces. Instead, we can and should imagine a more collaborative, consultative, inclusive approach to building Industry 4.0 in Australia. This must involve:

- restoring fairness in the workplace
- allowing broad-based bargaining (including at the sector-wide level) between strong unions and employers
- skilling and training both existing workers and new starters
- developing innovative new products and processes
- delivering productivity increases – and sharing those gains fairly (through reliable wage increases and reductions in working time).

We can do all of this without upsetting the applecart of our 27 years of continuous growth, so long as we have the political will to do so. Australia would be better off, work would be enriched, and the future of our children more secure than it is in our current farm, mine and visitor economy.

It's worth a go.

WORKFORCE PERSPECTIVE THREE

Pathways to the future workforce

Peter Coleman

CEO and Managing Director
Woodside Energy

This year Woodside's Perth-based staff took a short walk across the road and a big step into a new way of working. When we moved into Mia Yellagonga, our new headquarters, we introduced staff to a whole new approach that was enabled by technology and designed to support the collaboration that is crucial as we embark on an expansion phase in our operations.

Staff no longer sit every day at their dedicated desk. Instead, they have been given laptops that can connect to any screen in the building, so they can decide where it will be most productive for them to work on any given day. There's a bespoke app to help them locate the colleagues they need to work with and technology to allow them to connect to co-workers at our facilities in northern Western Australia and our international offices.

These changes at Mia Yellagonga are only one facet of the technological transformation that is underway for our workforce as we draw on advanced technologies, including data science and digitisation, to maximise efficiency across our operations.

Introducing workplace-wide changes like this requires preparation and clear communication to ensure staff understand it's not just change for the sake of change – it's change that empowers them to do their jobs even better. Communicating the purpose of technology is crucial if it is to be accepted, adopted and applied in a workplace. Otherwise, there is a risk it can be seen as a distraction, or even a threat.

The same is true of how society deals with the transformative changes we are seeing with rapid advances in Artificial Intelligence and automation that have the potential to reshape not only our workplaces but also our lives.

As a society, we need to identify the purpose of these technologies and the opportunities they present for improved wellbeing and increased productivity. We also need to acknowledge that these technologies will be confronting to some and be prepared to deal with the concerns that arise without being deterred from embracing innovation and ensuring society benefits from it.

The resources sector, particularly in Western Australia, has led the early adoption of technologies like data analytics and Artificial Intelligence, recognising the benefits for increased efficiency and improved safety. However, these technologies will also have much broader reach across the economy.

It is time for us as a community to consider how we can manage this transition and ensure there is a clear path through it and that the community can understand the benefits of working smarter.

To support this, Australia could consider creating a specialist regulatory agency for autonomous systems (e.g. self-driving cars, robotics), which could play a role in building public confidence and ensuring that common lessons are transferred between different industries, while avoiding regulatory duplication.

We have a competitive advantage in that Australia is familiar with risk-based regulation, which is much better suited to innovation and entrepreneurship than prescriptive approaches.

Other countries are already manoeuvring to secure a position in the global value chain associated with the expansion of big data. Australia needs to be strategic about capturing a competitive advantage. This includes encouraging industry to collaborate to create scale, which can attract technology firms to establish operations here and employ and develop local talent rather than remote-servicing our needs.

It is encouraging that both sides of politics are willing to progress a category of visa for global talent. This will be useful for companies like Woodside, potentially opening up opportunities for us to invite secondees from organisations we work with, such as NASA, to spend time working alongside us here, imparting their highly specialised knowledge and building local capability.

High labour-costs have in recent decades made Australia a challenging location for manufacturing, but in the evolving digital industries, there is an opportunity for Australia to establish itself as a provider of the high-skilled labour that will increasingly be required, including software specialists, mechatronics engineers and data analysts.

Maximising these opportunities will require some planning and investment in research to keep pace with global developments. There will also need to be a coordinated approach to education and training, with alignment between employers and educators on what is required to support the upskilling of staff. New qualifications will be required – and new ways of delivering them, including to those who are already in the workforce.

With every generation, the types of jobs that are needed change, and we are currently undergoing another generational change. As a society, we need to ensure our future workforce develops the skills that will be needed. It is true that some jobs will be lost, but we should not lose sight of the fact that whole new classes of employment will also be created.

The transition is already underway across the economy and will only accelerate. If the community does not understand the clear path through this transition, there is the risk of a damaging, futile and costly push to slow it down or stifle it through excessive regulation. If we get it right, the prize is significant: a more productive workforce enabled by advances in technology that can add billions of dollars of value and thousands of jobs across the value chain.

A new approach to skills and training

Professor Attila Brungs

Vice-Chancellor

University of Technology Sydney

“Education can make the difference as to whether people embrace the challenges they are confronted with or whether they are defeated by them” – OECD Learning Framework 2030.

There is a growing consensus that the future global economy will be shaped by the rate and scale of three major forces: technological change, learning evolution and workforce mobility.²⁹

The ability of a country's education system to help individuals gain or create employment, and then to remain relevant throughout their career as the nature of the labour market is continuously affected by disruptive waves of change in every sector is therefore a major determinant of that society's likely prosperity.

The education sector (adopting a 0 to 100-year mindset), must firstly help the current workforce adapt and re-skill as parts or tasks within an individual's role evolve or cease due to automation, Artificial Intelligence, robotics and big data.³⁰

All individuals must adopt a 'life of learning' approach to education, given their constant need to acquire new skills. Education providers must ensure that knowledge is accessible, relevant and digestible in modular chunks. Employers must help ensure the education provided is relevant to the workplace and constantly evolving industries.

Research shows that by 2030, we will spend 30 per cent more time per week learning skills on the job and continuous learning will be part of our everyday work life.

Together, a new, agile partnership model of education must emerge, with business, education providers and workers collaborating in partnership to mutual benefit, and to Australia's prosperity.

As well as helping the existing labour market to adapt, educators will need to develop a new generation of learners, for whom a career of 20–30 jobs is not just normal but welcomed.

Simply put, our national prosperity, societal wellbeing and advancement as a community hinges on us getting this right. The right approaches will enable us to create an agile, skilled workforce and an adaptive and engaged society that will be able to prosper and take advantages of emerging opportunities, growing our standard of living.

Increased workforce agility will support Australia's growth in existing and emerging markets, ensuring our workforce is able to harness disruptive new technologies. Indeed, new markets will be constantly developed by Australian entrepreneurs and 'intrapreneurs', finding opportunity in transdisciplinary areas, and through application of more powerful technologies and data insights, allowing Australians to be disruptors rather than disrupted.

Employment levels will not only remain high, Australian workers will increasingly move to more meaningful, creative and fulfilling roles, as repetitive tasks, either manual or intellectual, are automated.

In high value creation (from less resources) the Australian economy will out-compete nations who have either a high dependence on repetitive manual labour, or low investment in technology or educational reskilling.

Education providers themselves, partly due to higher levels of investment in training and reskilling from Australian employers, will reform their offering to more modularised components that not only help existing workers retrain, but also develop a life of learning approach among younger generations. These education providers will find a global market for their products and services.

Without adequate planning and investment for the opportunity to come, and which is already arriving, Australia's economic prosperity and societal wellbeing will be threatened.

Getting it wrong or continuing as we are will ensure that our society is pummelled by the winds of global upheaval, our businesses rapidly becoming uncompetitive, creations of an underclass of the unemployable, stalling the formation and growth of new enterprises, and fuelling disenfranchisement of large segments of the community.

Some argue that automation will replace many current jobs, but more importantly it will replace or change parts of jobs or tasks. This can lead to largescale displacement in the workforce. Further, others³¹ suggest that due to its ageing workforce demographics, Australia's economy will need every worker as well as the productivity gains that might be achieved through this automation. In this scenario, underutilising the available workforce because they do not have the requisite skills and abilities will lead to massive employer costs, including unnecessary recruitment.

In the future no longer will business and employers be able, as they currently do, to deliberately shed workers who no longer meet their requirements and hire other appropriately skilled individuals. Both the scale of the job changes and requirements for adaptive skills are so large, that unless businesses take an order of magnitude more active role in staff development there will not be appropriately skilled individuals to employ.

Regardless, a worker-employer disconnect threatens with the labour market not skill matched to support emerging business, meaning employers will need to import more skilled workers, with the resultant high cost of doing business driving start-up companies offshore, further reducing GDP. The declining national economy will lead to further underinvestment in education, health, technology and infrastructure, continuing the negative cycle.

Social support costs will mount, and large-scale disenfranchisement will lead to widespread societal breakdown.

The biggest barriers to success for Australia in successfully transitioning to the future economic model are lack of action – by employers, universities and governments – or insufficient rate of change; as well as lack of collaboration among these sectors.

Australia is well placed to take advantage of the opportunities that are appearing, but that window of opportunity will narrow, and current high standards of living may create a false sense of future security.

Partly, a major barrier to success is attitudinal, with fear and underconfidence stymying action. As a nation, being innovative and keeping our eyes on the horizon will enable us to not only weather the storm of technological and societal change but take advantage of it.

However, it is easy for people to fear innovation and change. It's important to understand and respect those fears and, importantly, ensure that our innovation drives prosperity and societal wellbeing for all. The future of work, well managed, brings opportunities for all segments of society.

Without a concerted, collaborative effort, other barriers to economic success will appear as the effects of disruptive technologies begin to grow and spread. Labour market imbalances and high unemployment, as well as business uncompetitiveness will feature³², however all of these barriers are currently avoidable.

Another possible barrier to success may be rising inequality especially for lower qualified individuals who are likely to be most affected by automation and least able to retrain.³³ This growing inequity, separating those with the qualifications, technical skills and higher-level experience, from those without, threatens to severely fracture society, and prevent large segments from actively sharing in rising levels of wealth creation.

Government, universities and employers must work in concert if the reskilling of the nation's workforce is to happen in a timely and efficient way.

Government, at all levels, must demonstrate the political foresight, will and ability to drive the innovation agenda in Australia, including incentivising action from others through regulations, taxes and funding reskilling programs to minimise underemployment and income inequality.³⁴

Standing firm against the global political trends of increasing nationalism and populism, the Australian Government must harness Australia's leadership in international education by better utilising the skilled international graduates the sector produces.

It must invest in Australian precincts and supporting infrastructure.

Most importantly, it must provide a stable and long-term policy environment, while undertaking crucial policy reform to support:

- schools, VET and higher education sectors to work together holistically for the country's benefit
- higher levels of postgraduate study, particularly with industry placements and participation. This should include a review of how postgraduate places are funded and corporates are incentivising or expected to contribute to staff training.
- increased alignment and interaction between the skills and training sector and industry (e.g. incentivising more education students to fill expected future gaps)
- growing levels of entrepreneurialism.

Employers will need to put adequate funding into ongoing education of their workforce if they are to avoid or minimise future costs associated with recruiting new staff, from a dwindling talent pool. As part of this they need to partner with universities including ensuring industry placements for students as entry level jobs are increasingly automated, support work integrated learning, ensure alignment between their needs and graduate capabilities, and become more actively engaged in curriculum design. Finally, but perhaps most importantly, that they support individual workers undertake reskilling and to assume a life of learning approach.

The Australian education system must scale up and speed up its overhaul of curriculum to ensure firstly that students have a 0-100 mindset with regards education. That ongoing education and reskilling is an expectation for future life in our society. Then we must ensure that graduates have 'boundary crossing' skills and capabilities; uniquely human skills such as creativity, collaborative problem solving, communication; specialised domain knowledge; and importantly, resilience. They will also require greater levels of digital literacy, technological literacy and enterprise skills, and importantly, these skills need to be developed in an authentic or integrated work context.

Education providers must also continue to evolve new, shorter and more modular forms of learning and reskilling (including micro credentials), mandate internships, and continue to invest in online platforms. They must drive participation across geographies and socioeconomic groups.

McKinsey & Company³⁵ point to Denmark, Sweden and Germany as having national workforce models that best support worker transition and reskilling.

Twenty-five per cent of Danes switch jobs every year, encouraged by a flexible hiring/firing ecosystem, balanced by greater worker security, with unemployment benefits at up to 90 per cent of salaries for lower paid workers.

Similarly, Swedish employers provide financial support and job counselling to displaced workers. Eighty-five per cent of Swedes are re-employed within one year.

In Germany, each unemployed individual is assigned a case worker, given 'mini-jobs', supplemented by welfare payments, and provided with online and offline skills assessments and counselling.

American telco AT&T³⁶ demonstrates the internal investment in employee reskilling, and partnership model for lifelong learning, that will need to become more prevalent among Australian companies in future.

The company offers up to \$8000 in annual tuition aid per employee for degrees and nanodegrees, delivered in partnership with Udacity and Georgia Tech.

This allows workers to gain credentials and the latest expertise in high-demand technical specialties such as software engineering, coding and web development.

By early 2016, employees had taken more than 1.8 million emerging technology courses, 323 employees had enrolled in their online Masters program, and another 1101 were in the process of earning nanodegrees. Internal sourcing of STEM jobs by the company increased by more than 20 per cent between 2012 and 2015.



4.3 Population

Question for future
economic development:

How do we manage immigration,
population and settlement strategically
across governments?

WHY IS POPULATION A PRIORITY FOR ECONOMIC DEVELOPMENT?

The composition, growth and geographical distribution of our population is critical for economic development. It determines:

- the infrastructure we need and where we need it
- the size of our workforce and the extent to which migration can play a role in boosting the number of working age people, and the skills profile of our workforce
- the services we need and where we need them
- what we need to do to ensure our most populated areas remain liveable and productive
- the size of the task to spread economic opportunity more broadly into regional areas.

POPULATION – CURRENT ISSUES

The Australian population continues to grow. The latest official projections, contained in the Australian Government's *2015 Intergenerational Report*, indicate an annual rise in the number of Australians of 1.3 per cent over the next few decades, with the population reaching close to 40 million by 2054–55.³⁷ However, actual population growth has consistently outpaced official expectations, and so a faster rise in numbers is entirely plausible.

Serious political debate about population policy in Australia has tended to be episodic. Debate has intensified recently based on a number of factors, including:

- Australia reaching a total population of 25 million people, faster than historical projections, including the *2002 Intergenerational Report*, which projected this to occur in 2032
- strong population growth concentrated in Melbourne, Sydney and Brisbane
- much slower population growth in other capital cities (e.g. Adelaide) and regional areas

- concerns about the level of immigration
- concerns about the impacts on standard of living including congestion, housing affordability, liveability of major cities and slower growth in GDP per capita often seen as a proxy for standards of living.

The last time there was the same level of discussion and debate was almost 10 years ago when the then Prime Minister declared his support for a big Australia. He was subsequently challenged to spell out how Australia would sustainably accommodate a population of 35 million by 2050.

Despite numerous calls that there should be one, there is currently no explicit population policy in Australia. The last official policy can be traced back to the end of the World War II, when the Australian population was less than 7.5 million.

At that time, there was broad consensus that the population needed to increase, and an annual population growth target of two per cent was adopted. The central policy lever to achieve this target was a program of mass immigration, which augmented the natural increase in population. The two per cent population growth target was abandoned in the early 1970s.

As highlighted in Chapter 2, overseas migration is now driving most of the increase in Australia's population. The migrant intake – which is determined on an annual basis by the Australian Government – could be perceived as an implicit recognition of the need to boost the size of the Australian population. But it has played an important role in shaping the age and skills composition of our population, rather than achieve a desired level of population growth.

In terms of ageing, demographer Dr Liz Allen (Perspective 5) provides a number of indicative estimates to illustrate the important benefits of net overseas migration (NOM) in moderating old-age dependency. Australia has had an average NOM of under 220,000 annually over the period 2004–05 to 2016–17.

The IMF has estimated that Australia's migration program will add 0.5 to one percentage points to average annual growth in the economy between 2020 and 2050 by reducing the impact of an ageing population.³⁸

Dr Allen also highlights the potential for immigration to reduce intergenerational inequality by easing pressures on the workforce – pressures whether they are perceived or real could impact family formation and already low fertility rates.

Australia's policy settings have increasingly required migrants to prove the adequacy of their commitment and skills to secure permanent residency.

This spans the various changes over time from the points test in the 1970s, the focus on skills in the 1990s, through to the focus on employer sponsorship in the 2000s.³⁹ It is therefore unsurprising that migrants granted permanent residency have higher average skills and productivity than the non-migrant workforce.⁴⁰

Rather than attempting to influence population growth towards an optimal, the emphasis of government policy in recent decades has been to anticipate, prepare and respond to population changes.

As pointed out in Chapter 2, an increase in the population does not automatically translate into improved living standards and must be accompanied by reasonable productivity growth. There appear to be growing concerns from some about the impact of continuing population growth on Australians' lives.

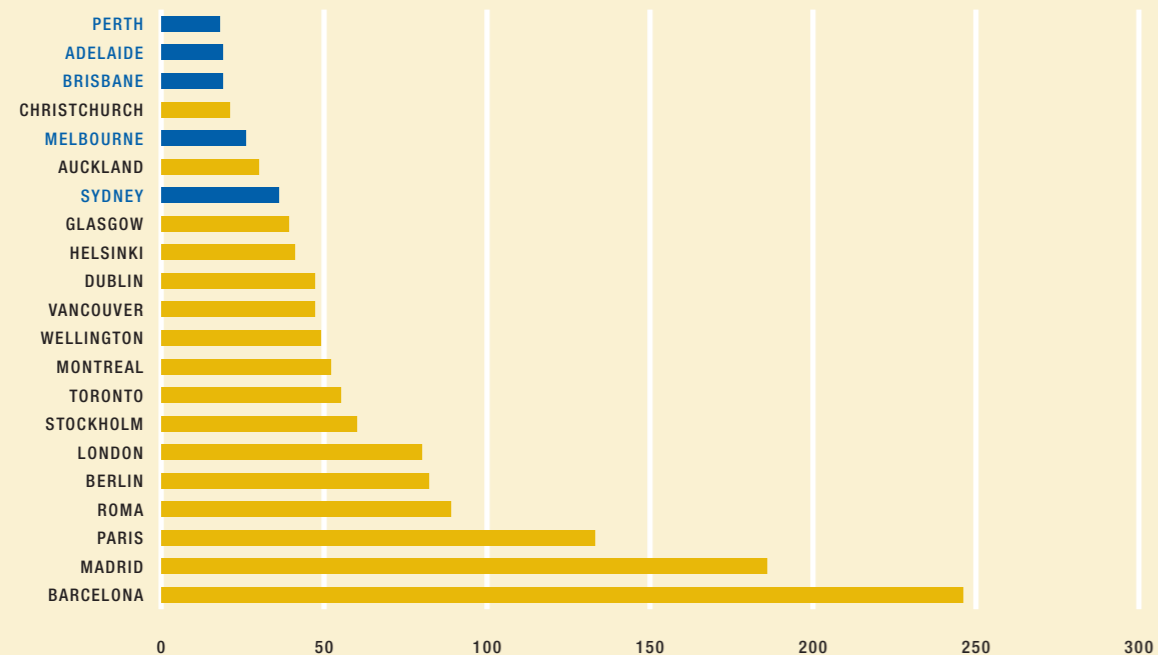
Some argue that infrastructure provision in major cities is not keeping pace with the growing population, resulting in congestion and overcrowding. The increasing demand for public services, such as health, is resulting in longer waiting times. Meanwhile, a rising population is often cited as a factor behind deteriorating housing affordability and adverse environmental outcomes.

Such concerns are fuelling calls for a renewed debate about the appropriate size of the Australian population.

But there is also evidence that congestion and overcrowding may not be as severe as some suggest. For example, recent research has found that commute times and distances have barely increased in recent years in Australia's major cities.⁴¹

CEDA's *Community Pulse 2018* also found that the community placed a surprisingly low level of importance on reduced commuting times relative to other issues.

FIGURE 4.3 POPULATION-WEIGHTED DENSITY OF SELECTED CITIES (PERSONS PER HECTARE)



Source: Charting Transport, <https://chartingtransport.com/2015/11/26/comparing-the-densities-of-australian-and-european-cities/>

International comparisons of population density also suggest that Australia’s major cities remain much less densely populated than global cities as evident in Figure 4.3.

There are other trade-offs that need to be confronted in how we organise cities to be both liveable and productive economic centres. In Perspective 6, Philip Davies notes:

“...restrictive policies put in place by some governments (that) prevent the 24/7 operational flexibility that freight logistics operators need to do their jobs effectively. Specifically, things like air freight and heavy vehicle curfews in major cities and vehicle bans in CBDs and around some inner-urban communities have an enormous impact on overall supply chain efficiency.

The reduced supply of logistics lands around key freight facilities – particularly ports – is another major issue, as governments re-zone land previously used for industrial purposes in order to accommodate new residential developments.”

To mitigate concerns about the inability of major cities to accommodate further expansions in the numbers of citizens, it has been suggested that regional development programs could be adopted so population growth is concentrated in sparsely populated areas of the country.

Such programs would involve incentives for people to relocate from major cities to regional centres, and/or encouraging new migrants to settle outside the major cities upon arrival in Australia. However, there are challenges to such an approach, including:

- the need to provide and fund adequate physical and social infrastructure in regional areas to meet demands from a rising population – for example, settlement services, better transport infrastructure, more schools, hospitals, and recreational facilities
- ensuring there are sufficient employment opportunities in regional areas – what incentives, if any, would governments need to provide to encourage businesses to locate in regional areas
- determining the policy levers to persuade new migrants to settle in regional areas (noting that location-specific migration visas would be difficult to enforce).

Recent research indicates that mandating migrants on temporary 457 visas to live in regional areas is not effective in growing regional economies in the long-term.⁴²

The impacts of regionally targeted programs diminish over time to have the same impact on regions as untargeted migration programs. This is due to immigrants moving overseas, to other regions and capital cities over time. Therefore, achieving greater distribution of Australia’s population is likely to require much broader and sustained efforts to keep building connections and economic activity in areas of competitive advantage across Australia’s regions.

POPULATION – CEDA'S PRIORITIES AND FOCUS

Australia should establish a strategic and sustainable framework for managing immigration and population growth and settlement across governments. The components of such a framework must include:

- a statement of policy objectives
- regular, robust and transparent evaluations of recent trends and their impacts on people and the communities and environments in which they live and work
- the capacity to recalibrate targets and policies based on evaluation results and in line with long-term pressures and goals
- critical evaluation of the practicality, impacts, sustainability and effectiveness of regional settlement policies
- a multifaceted approach to planning that incorporates access to employment, housing and essential services
- coordination across governments and jurisdictions
- the role of immigration in meeting short- and long-term skills needs
- the role and impact of temporary migration.

CEDA's research and advocacy will focus on how to get the components right and ensure effective coordination and planning across jurisdictions.

POPULATION PERSPECTIVE FIVE

Advancing population wellbeing through demography

Dr Liz Allen

Demographer,
Centre for Social Research and Methods,
College of Arts and Social Sciences,
The Australian National University

Population considerations are central to advancing Australia's future wellbeing, yet also pose significant challenges for the nation. Complex interdependencies between population dynamics and characteristics – demographic composition, components of population change, and geographic distribution – translate and impact on quality of life. Australia is faced with the challenges of socioeconomic inequalities and uneven population distribution, both of which are exacerbated by population ageing.

The challenges posed by Australia's demography are similarly the source of myriad opportunities. Among the demographic challenges for Australia include how to connect the interdependent policy domains related to ensuring population wellbeing. Preparedness and responsiveness are key for Australia to weather demographic difficulties.⁴³

Demographic challenges and opportunities

The major demographic challenges for Australia stem, largely, from an ageing population. These include intergenerational inequalities (further confounded by pre-existing socioeconomic inequalities) relating to housing and population distribution.⁴⁴

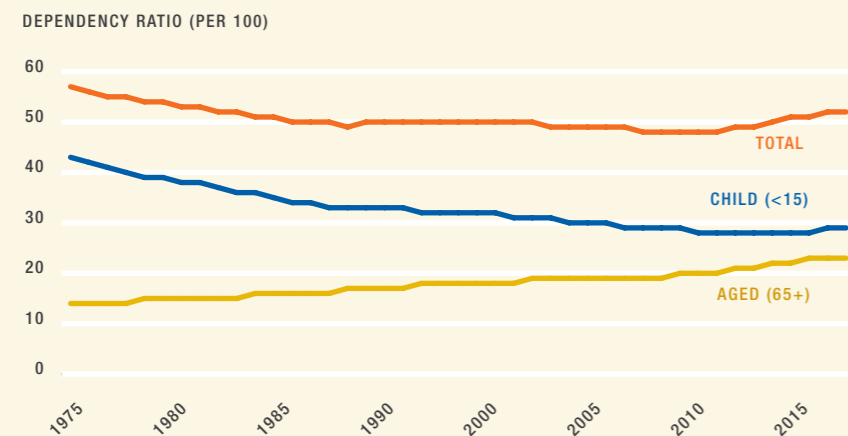
Population ageing

Gains in health have seen life expectancy increase – such success means Australians are living longer.⁴⁵ Population ageing is not a new phenomenon. Yet the scale and future prospects of structural population ageing are the likes of which Australia has never seen, and to that end, Australia is faced with a demographic crossroad.

The challenges associated with an ageing population can lead to opportunities potentially maximised through demographic and economic actions. Conversely, the pressures posed by a proportionally shrinking workforce could entrench intergenerational inequality.

Population ageing places fiscal pressures on the economy as the proportion of older people typically not in the labour force and not contributing personal income tax (aged 65 years and over) increases proportionally to the working-age population (15 years and over). Figure A illustrates the relative increase in the old-age dependency ratio (people aged 65 years and over compared to the working-age population). Meanwhile, the child dependency ratio of children aged under 15 years has remained relatively stable over the 12 years to

FIGURE A AGE-RELATED DEPENDENCY, AUSTRALIA—1975–2017⁴⁶



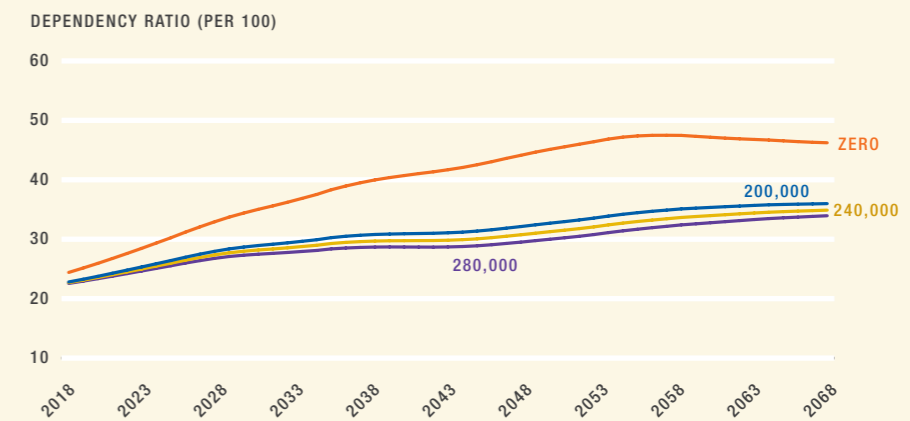
Source: ABS *Australian Historical Population Statistics*, 2014, cat. no. 3105.0.65.001; ABS *Australian Demographic Statistics*, Sep 2017, cat. no. 3101.0.
Notes: Annual figures to 30 June.

2017. Balancing the needs of the older population with those of the young population will continue to feature in Australia's economic narrative.

Population ageing is a significant challenge to Australia's economic wellbeing if the demographic opportunities are not realised.

Immigration has been a key contributor to the economic progress and success of Australia, particularly over the period since the nation-building program of overseas migration post World War II⁴⁷. Figure B presents a crude but indicative demonstration of the impact of different net overseas migration intake levels on the old-age dependency ratio. Immigration is shown to minimise potential adverse consequences of an ageing population by moderating the proportion of older people relative to the working-age population.⁴⁸

FIGURE B PROJECTED AGE-RELATED DEPENDENCY FOR 65 YEARS AND OVER, AUSTRALIA—2018–2070⁴⁹



Source: ABS *Population Projections, Australia, 2012 (base) to 2101*, cat. no. 3222.0.
Notes: Medium fertility and life expectancy assumptions.

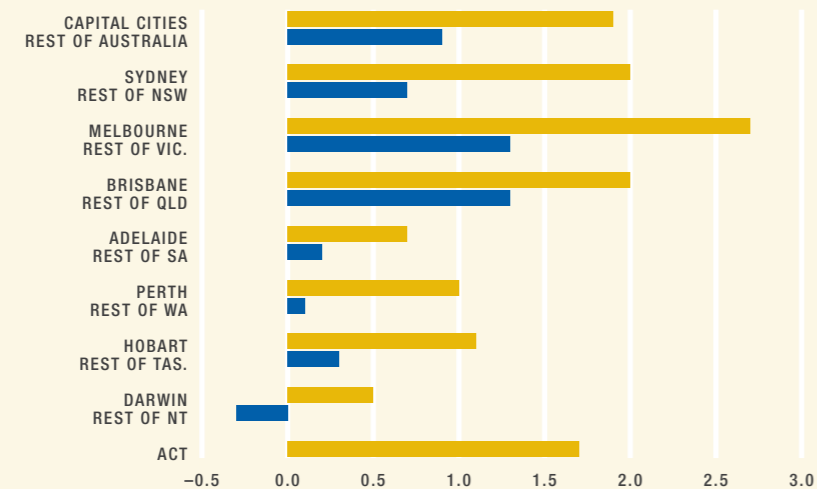
Balancing immigration intake to meet the needs of the Australian economy is an essential element for advancing population wellbeing.⁵⁰ As Figure B shows, of the three immigration scenarios examined, net overseas migration (NOM) of 280,000 people per year provides the most benefit in moderating old-age dependency. NOM has averaged under 220,000 annually over the period 2004–05 to 2016–17.⁵¹

Additionally, immigration has the potential to reduce intergenerational inequality by easing pressures on the workforce. This is important, because pressures – perceived or real – on the nation’s workforce could have flow-on demographic consequences by impacting family formation, thereby influencing already low fertility rates⁵². The interaction between immigration and fertility, by way of social impacts on the workforce are not common considerations but are features of the demographic situation Australia finds itself.

Redressing two-speed population growth

Population size⁵³ is commonly identified as a concern among Australians – but size belies the real issue of unequal population distribution. Major cities in Australia are growing considerably faster than areas in other parts of the country. This dual-speed growth places enormous pressure on essential infrastructure in the cities, while restricting the potential opportunities for populations outside the city limits. Figure C depicts the two-speed population growth experienced in Australian cities versus non-metropolitan areas.

FIGURE 4C PERCENTAGE POPULATION GROWTH BY GREATER CAPITAL CITY AND REST-OF-STATE, 2016–17⁵⁴



Source: ABS Regional Population Growth, Australia, 2016–17, cat. no. 3218.0
Notes: Preliminary data. Geographic classification based on ABS Greater Capital City Statistical Areas.

Higher population growth in the three major Australian cities of Melbourne, Brisbane and Sydney over 2016–17 highlight the potential disparities in opportunities and access, and thus inequality between regional and urban areas. These three major cities are the destination for the majority of overseas migration to Australia⁵⁵. Employment, education, housing and transport infrastructure are just a few sources of sociodemographic disparities reinforced by population distribution in Australia.

A blueprint for the future

Socioeconomic inequality and uneven population distribution are priorities for Australia to advance wellbeing through demography for equal opportunities and access. Challenges regarding population ageing exacerbate the difficulties of these priorities for Australia.

Just as these priorities are barriers to success of the country, these priorities are also the solutions through which to advance Australia’s progress and success.

Immigration remains fundamental to Australia’s continued progress and success. Moving forward, a contemporary population policy for Australia⁵⁶ is a matter of priority – a connected suite of policies which seek to address wellbeing and quality of life, through demography.

A population policy for Australia is not about targets for or limits of size or growth. Targets for sociodemographic wellbeing offer tangible goals to aspire to. Additionally, infrastructure which supports the population (physical, social, environmental or economic) is an essential part of strategies to make opportunities of the nation’s demographic challenges.

The most effective population policy for Australia is a whole-of-government approach with a life course model to policy and practice with the aim to place people and wellbeing at the fore of population considerations. And evidence is core to informing the path forward. For example, the workforce of the future are the children of today and tomorrow. Sufficient government investment is required for babies to have a good start at life, particularly with respect to health and education.

Policy (re)investment in the basics of population wellbeing – including health, education and training, housing, employment, and transportation – is key to making opportunities of the demographic challenges Australia faces.

Business as usual won't deliver the goods

Philip Davies

Chair, Australian Logistics Council

Enabling the safe and efficient movement of freight is not an issue that tends to capture the imagination of the Australian public. It's something we take for granted.

However, the freight logistics industry represents a major component of economic activity in Australia. Research commissioned by the Australian Logistics Council found that the sector represents around 8.6 per cent of Australia's GDP and employs around 1.2 million people.

Moreover, according to the same research, every one per cent increase in supply chain efficiency will boost Australia's GDP by around \$2 billion. This potential economic benefit alone should mean that enhanced supply chain efficiency is a top priority for all governments.

Public appreciation of our supply chains is a little like that of IT systems, or our energy supplies. They are taken for granted when they operate well, only capturing attention when there are problems.

People don't necessarily make the connection between the truck they see on the road, and the goods they buy on the shelves or online.

However, they do notice if there are delays in the receipt of their deliveries, or if increasing shipping costs place upward pressure on consumer prices.

The simple truth is that unless we adopt a more considered, coordinated and long-term approach to planning freight infrastructure and the way we use it, Australia will be unable to meet the growing freight task associated with our rapid rate of population growth.

The scale of the challenge was highlighted by the report of *Inquiry into National Freight and Supply Chain Priorities* released in May 2018, which was the first stage in the development of Australia's first comprehensive National Freight and Supply Chain Strategy.

Research undertaken to support the Inquiry established that Australia's national freight task is expected to double over the next two decades.

The Inquiry also found that even with major new freight infrastructure projects now being undertaken (including Western Sydney Airport and the Inland Rail), our freight networks will struggle to meet this demand without other significant policy changes being made.

In other words, we need to get away from the idea that building new infrastructure is a cure-all.

Just as important will be our ability to extract more value from existing freight infrastructure by addressing regulatory restrictions and inadequate planning processes which have a deleterious impact on supply chain performance.

That means that political leaders, policy-makers and participants within the freight logistics industry need to start having some honest conversations with the public about some of the complexities and trade-offs that might be necessary to meet expectations around efficient deliveries and liveable communities.

If Australians wish to sustain – and enhance – our current standard of living, maintaining a business as usual approach to our supply chains will prove hopelessly inadequate.

There are a number of significant hurdles to enhanced supply chain efficiency that the National Freight and Supply Chain Strategy will need to address.

Capacity limits within our existing freight network are already a major challenge for industry participants. Perhaps the most visible manifestation of that is road congestion in our major cities, which has been driven by rapid population growth and poorly-coordinated infrastructure planning.

Adding to that challenge are restrictive policies put in place by some governments that prevent the 24/7 operational flexibility that freight logistics operators need to do their jobs effectively. Specifically, things like air freight and heavy vehicle curfews in major cities and vehicle bans in CBDs and around some inner-urban communities have an enormous impact on overall supply chain efficiency.

The reduced supply of logistics lands around key freight facilities – particularly ports – is another major issue, as governments re-zone land previously used for industrial purposes in order to accommodate new residential developments.

This is one symptom of how the lack of a coordinated national approach to corridor protection is now catching up with us. Australia's historical failure to properly preserve freight corridors is adding significantly to the cost of infrastructure development and causing anger and even dislocation in some local communities.

A lack of meaningful data about the performance of our supply chains and the way freight moves around the country makes it hard to measure Australia's performance against our international competitors. It makes it equally challenging to plan investment in domestic freight infrastructure effectively.

These are all challenges that can be overcome – provided decision-makers are willing to take a longer-term view than has historically been the case and are willing to engage the community in the honest conversations that are always a precondition to achieving lasting reform.

The development of a National Freight and Supply Chain Strategy – which by its nature requires cooperation between all levels of government – is the perfect opportunity to start having those conversations about Australia's long-term interests.

It affords us the opportunity to at last implement an effective and nationally-consistent approach to corridor protection, so that governments, investors and local communities alike can have certainty when it comes to infrastructure projects.

The development of the strategy also gives us the chance to establish greater consistency in land use planning, so that we don't continue to build residential developments in close proximity to ports and airports, and then impose noise curfews. Freight needs to be respected within land use planning regimes.

Finally, we need to make far greater use of data in our supply chains. That starts with making sure that we develop and implement consistent data standards – so that different pieces of equipment in our supply chains can talk to each other, allowing us to harness the power of data to guide more effective freight infrastructure investment.

The National Freight and Supply Chain Strategy is due to be presented in May 2019 and is intended to establish a 20-year framework for the operation of our national supply chains.

The clear economic benefits engendered by enhanced supply chain efficiency, ensuring our export-oriented economy remains internationally competitive and maintaining strong employment growth for a growing population are compelling reasons to get this strategy right.

It is up to governments at all levels to now work cooperatively in making certain it delivers the outcomes the freight logistics industry needs to achieve those ends.



4.4 Critical services

Question for future economic development:

How do we deliver critical services with better outcomes?

WHY ARE CRITICAL SERVICES A PRIORITY FOR ECONOMIC DEVELOPMENT?

Critical services underpin our economy and our lifestyles. They are important inputs to Australian businesses and also maintain a healthy and engaged population that can make meaningful social and economic contributions.

In CEDA's *Community Pulse 2018* people identified quality, access and affordability of health care, aged care and essential services as consistently the most important issues in their lives and for the success of the nation.

These services make a critical contribution to the economy, and as underpinning other sectors. For example, electricity, gas, water and waste services account for about 2.6 per cent of the value of goods and services produced across the economy while health care and social services account for over seven per cent.⁵⁷

CRITICAL SERVICES – CURRENT ISSUES

Australia is currently experiencing a range of pressures and challenges in the delivery of services.

Energy

In energy, there has been an inability to reach consensus and compromise when seeking to reconcile multiple objectives – that is, balancing the need for affordability and reliability with the need to reduce emissions. As the Productivity Commission notes:

“Lack of clarity on emission reduction policies, increasing reliance on intermittent and variable renewable energy, moratoria on gas exploration and development, and the commencement of gas exports from the east coast, have all contributed to a system under pressure.”⁵⁸

After a decade of policy change and uncertainty, Australia's expectations and ambitions for a workable energy policy framework have arguably reached an all-time low. In fact, expectations are so low that some in the sector have expressed the simple hope that the next phase of “policy uncertainty” is managed at least cost to the community.⁵⁹ Unfortunately a short-term policy focus solely on affordability

and reliability leads to continued long-term uncertainty for investors in the sector who seek clarity in how emissions will be treated. A lack of investment due to uncertainty will compromise affordability and reliability in the long term.

Water

In contrast to energy, water is an area that is being relatively well managed under the National Water Initiative established in 2004, but there is still more that can be done to address challenges from population growth and climate change. Meeting the growing needs of cities while maintaining affordability will require long-term planning and investment to avoid poor and rushed decisions in the event of a looming shortage.⁶⁰ Rural and regional water infrastructure will also need to be subject to rigorous analysis to avoid the construction of unviable infrastructure.⁶¹

Aged care and disability

The long-term pressures on aged care and disability services are significant. These areas must meet rapid increases in demand, while simultaneously changing the service delivery model. As Melina Morrison describes in Perspective 9:

“...The growth of the aged and disability care sectors will see 60,000 more full-time disability carers needed by 2019 and an increase from 366,000 aged care workers in 2016 to 980,000 needed by 2050...

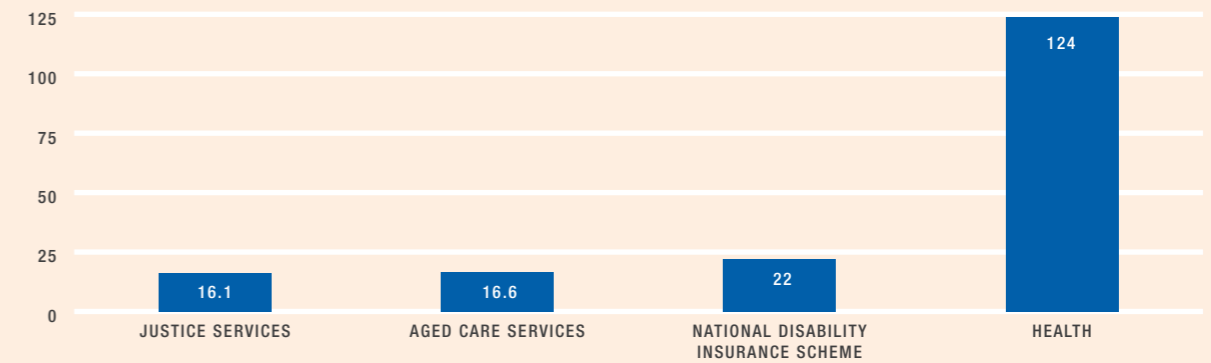
...Care is no longer a one-way relationship between the service provider and the people who use services...

...These big social changes demand new solutions, which can adapt to the demand for autonomy and choice...”

Recent revelations about the standard of care in aged care facilities and the subsequent Royal Commission come at a time when Australia has around 3.8 million people over the age of 65, growing to around nine million by 2054–55 based on current projections.⁶² As Morrison argues, with the right policy frameworks a reinvigorated cooperatives and mutuals sector could play an important role in innovative service delivery building on emerging initiatives.

The speed and nature of changes being brought about in disability support through the National Disability Insurance Scheme (NDIS) have been described as unprecedented as it aims to rollout a completely new service model to almost 500,000 participants by 2019–20.

FIGURE 4.4 GOVERNMENT EXPENDITURE ON SELECTED SERVICES (\$B)



Source: Commonwealth Budget papers, AIHW & Productivity Commission. Latest year available. NDIS estimate is when scheme is fully operational.

The experience of the NDIS to date illustrates the tension between meeting demand and getting the service delivery model right. According to the Productivity Commission there has been too much focus on quantity and not enough on quality, supporting infrastructure, market and workforce development in the rollout to date.⁶³

Governments are also committing significant expenditure to meet volume demand in health, mental health and justice, but it is clear that this expenditure is not always delivering the best value or the right outcomes.

Health

James van Smeerdijk captures the current inefficiencies in the \$180 billion health system in Perspective 7:

“The system is fragmented and difficult to navigate for people with chronic and complex needs, leading to a frustrating patient experience, variable quality of care and costly inefficiencies. Silos in the system and the lack of shared patient data make it very challenging for service providers to collaborate for their patients. In addition, services don’t necessarily take into consideration what people value for their health, wellbeing and life. Services are funded based on activity (service volumes) and patient outcomes are not tracked or incentivised. This approach leads to inefficiency (avoidable, variable and unnecessary treatments) and lack of clarity on impact and value for money. It does not incentivise collaboration or innovation, both of which will be critical for the future.”

As noted in Chapter 3, Australia also spends a relatively small proportion on preventative health measures – just \$89 per person compared to total spending of around \$7000 per person on health. Technology offers significant potential to assist in prevention and self-management of health conditions as highlighted by Evan Rawstron and Steven Casey in Perspective 10.

Prevention and early intervention will need to be an increasing focus in mental health, which is estimated to account for almost eight per cent of overall health expenditure by government.⁶⁴ In 2016–17, 2.4 million people received Medicare subsidised mental health services and over four million people received mental health related prescriptions.⁶⁵ While support should be accessible, it is also likely to be more expensive than early intervention, which doesn't occur due to issues around awareness, stigma and discrimination.

Justice

Early intervention and prevention through 'smart justice' is also likely to reduce the cost of crime according to Professor Joe Graffam and Jenny Crosbie in Perspective 8. As Graffam and Crosbie note, rates of imprisonment have been on the rise at an average daily cost per prisoner of around \$270 according to some estimates. Despite this, almost half of prisoners are reincarcerated within two years. They note that a large proportion of the criminal population suffer from health and social issues including extreme disadvantage.

Taxation

The growing demands in these large areas of government expenditure are also colliding with a weak fiscal position as highlighted in Chapter 3. As well as service innovation to reduce waste and get better outcomes, sustainably delivering these services in the future requires a robust and efficient tax base. Despite long and loud debates about the optimal design of Australia's tax system, no real progress has been made in terms of systematic redesign. This is disappointing given the amount of time and effort invested since the Henry Tax Review. And it is unsatisfactory given the likely future trends in tax receipts.

The Parliamentary Budget Office (PBO) has concluded that given current policy settings and recent trends it is likely that⁶⁶:

- taxes on consumption will continue to trend downwards
- taxes on capital will be flat or trend downwards
- an increasing proportion of labour income will be taxed concessionally through the superannuation system

- maintaining revenue as a share of GDP will lead to greater reliance on taxes on personal income tax.

Digital divide

Chapter 1 showed that Australians have enjoyed improved access to increased digital bandwidth in recent years. Nonetheless, there remains a digital divide across different parts of the Australian population.

The Australian Digital Inclusion Index measures access, affordability and digital ability. In 2018, it found that people in the lowest household income quintile had a digital inclusion score of 41.3 compared to 72.1 for the highest quintile.⁶⁷ Other groups with relatively low scores include older Australians, less educated Australians, people with a disability, Indigenous Australians, people living in rural areas and those not in the labour force.

Research undertaken recently has also shown that small businesses in areas with access to greater digital connectivity with higher speeds through the National Broadband Network are experiencing more rapid growth in their business than those in areas without it.⁶⁸

CRITICAL SERVICES – CEDA'S PRIORITY AND FOCUS

Our priority is to ensure the delivery of affordable and accessible critical services with better outcomes. CEDA will seek to do this by focusing its research and advocacy on:

- driving a greater focus on desired service outcomes and greater transparency in respect of provider performance and outcomes
- the importance of developing stronger signals and incentives to underpin improved decision-making and allocation of resources over the long run, and to enable new supply and innovation
- increasing discipline in ending activities that do not add meaningful value to consumers/clients
- promoting the benefits of better data access, linkage and use in support of better outcomes (noting this is likely to have as much if not more influence than regulation in driving better outcomes)
- fighting for implementation of policy proposals developed through robust and comprehensive policy processes (e.g. the Finkel Review).

Closing the social infrastructure gap in health and ageing

James van Smeerdijk

Partner, PricewaterhouseCoopers

Australia has a relatively advanced and equitable health and ageing system, however with population growth, ageing and increasing burden from chronic disease, important questions arise as to whether the system is sustainable and fit for purpose to support our communities in the future.

The health system needs to transform to a model focused on wellbeing (rather than illness), that has a more integrated, preventive and outcomes-focused approach. Ultimately, the system should focus on keeping people as well as possible for as long as possible to avoid or delay the most costly care and improve people's quality of life.

The challenges

The demand estimates in the PwC report show that the scale of community needs in the future will be considerable and some of the projected gaps in social infrastructure seem unattainable from a fiscal and feasibility perspective.

For example, it is estimated that an additional \$24 billion in capital costs and \$12.8 billion per annum in operating costs would be needed by 2025 to meet the projected gaps in just aged care services and hospital beds.

By 2040, this could reach \$57.3 billion in additional capital costs and \$28.9 billion per annum in operating costs for the same categories.

In addition, there will be critical workforce shortages with potential gaps of approximately 85,000 nurses by 2025 and 180,000 aged care workers in 2025, increasing to 400,000 more aged care workers needed by 2040.

Even if logistically possible, simply scaling up and doing more of the same in the future will mean a very costly health system, and one increasingly seen as no longer fit for purpose. It does not fully meet the needs and preferences of people, their families and communities today, let alone in the future.

It is designed around illness and is not built to deliver complex, longer-term care as effectively as possible, which is what the majority of people today and in the future will need.

The system is fragmented and difficult to navigate for people with chronic and complex needs, leading to a frustrating patient experience, variable quality of care and costly inefficiencies. Siloes in the system and the lack of shared patient data make it very challenging for service providers to collaborate for their patients. In addition, services don't necessarily take into consideration what people value for their health, wellbeing and life.

Services are funded based on activity (service volumes) and patient outcomes are not tracked or incentivised. This approach leads to inefficiency (avoidable, variable and unnecessary treatments) and lack of clarity on impact and value for money. It does not incentivise collaboration or innovation, both of which will be critical for the future.

Need for innovation and reform

We need different approaches to reduce demand, increase efficiency and to extend supply of evidence informed, cost effective services.

The PwC report recommends a practical mechanism to guide and commission innovation, improvement, and new ways of working. Communities need to be empowered to test smaller scale, evidence informed models and there needs to be a way to remove as many of the system barriers to reform and progress as possible to support this. There also need to be ways to share best practices and scale the success stories nationally.

Establishing a new national function that sits outside of the health, ageing and social sectors could help drive local innovation in a more unfettered, efficient and consistent way. This function would be less influenced by vested interests, better able to support system level thinking and better able to develop a more objective point of view towards innovation, emerging evidence and reform across government bodies.

There are great examples of improvement initiatives in Australia, but these are unfortunately limited to operating in the current silos of the system – a systems perspective is needed.

This national function could commission market solutions that drive innovation and support the establishment of trial sites to design and test place-based solutions for what people need from a holistic perspective.

Relevant stakeholders in the community could come together to agree overall objectives and co-design new ways of working to meet agreed outcomes, supporting collaboration and new partnerships across stakeholders that would otherwise work mostly in silos.

This approach would provide a national resource to build evidence and insights for better support and care, identify opportunities to scale innovations and help develop reform options.

Investment, focus and resources

The national function would need to have sufficient funding to commission and support successful local testing and the authority to allow testing sites to overcome some of the barriers such as the current health workforce scope. Dedicated strategic resources and funding that sit outside of the health and social care sectors would allow more independent improvement that is less hindered by vested interests or existing incentives.

Regardless of the reform approach, transformational changes will be difficult and take time to get right. If Australia is to have a model focused on wellbeing, that has a more integrated and outcomes-focused approach by 2025 or even 2040, a shift in policies and investments needs to begin now. Pursuing incremental and low risk changes in the system will not be enough. Change needs to be sustained beyond election cycles.

Strong leadership will be required to achieve the necessary change. An overarching national, longer-term vision and strategy that addresses the sustainability of the system is needed.

Ultimately, the Commonwealth Government needs to play a leading role, working in close collaboration with the state/territory governments to make this truly effective. However, full agreement across all relevant stakeholders should not be a barrier to progress, reforms could be pursued on a bilateral and multilateral basis.

Failing to take action now would mean we risk having an outdated, unsustainable system that is unable to meet the needs of the population in the future. This would impact people's length and quality of life and increase inequity, with growing health system costs increasingly being shifted to individuals.

Australia has an opportunity to lead and drive meaningful change which will ultimately benefit each of us, our families and communities, our carers and the economy more broadly.

Smarter justice

Professor Joe Graffam

Deputy Vice-Chancellor Research,
Deakin University

Jenny Crosbie

Research Fellow, Deakin University

As a fundamental priority, Australia should aim to ensure health and prosperity for all Australians and safe and secure communities within which to live. Unfortunately, crime and all its costs have a major impact on individuals, families, communities, and our nation as a whole.

The cost of crime must be understood in terms of its totality, not only in terms of criminal justice system costs. Those costs include health costs, social costs, and economic costs.

The fiscal burden of crime is tremendous. As early as 2003, the total cost was estimated to be \$32 billion per year.⁶⁹ More recently, the estimate has risen to \$48 billion.⁷⁰ These figures include the cost of our criminal justice system, but also victim costs, loss of property, insurance costs, security costs, and several other crime-resultant

costs. Both Victoria and New South Wales have spent more than \$1 billion on prisons each year for the past three to four years. There are also hidden costs of crime that relate to underlying causes and contributors to crime. Offender and victim mental and physical health care costs pre and post release, alcohol and drug treatment costs, and reliance on family services and other social services by offenders and their families are some of those costs.

Incarceration rates have been on the rise for several years. At June 2018, the average daily prison population in Australia was 43,000, up four per cent in one year and 39 per cent in five years.⁷¹ Incarceration is arguably the single most cost-impactful element of a complex system of inter-related costs.

A recent estimate of the cost of incarcerating a person put the figure at approximately \$270 per day.⁷² Given that nearly half (approximately 44 per cent of offenders) have not committed a violent crime⁷³ the necessity of incarceration from a community safety perspective is somewhat questionable for a large number of offenders.

Drug and alcohol-related crimes are estimated to comprise between 40 per cent and 60 per cent of total crimes, depending on whether driving offence incarcerations are included.

Australia's recidivism rate strongly suggests that prison does not work to rehabilitate people. Our current national recidivism rate is 45 per cent over two years and has been rising for several years. Almost half of released prisoners are re-incarcerated within two years; more than half within five years.⁷⁴ Offenders are not returning from prison better-adjusted, more productive members of their community, and communities are not being made safer and more secure. The notion that we should be tough on crime is naïve and based on very shallow assessments of what causes and contributes to crime. Clearly, we need to be 'smart on crime' rather than simply tough on crime if we want a better Australia.

Smarter justice must be preventive, rehabilitative, and restorative. It is built on three core principles:

- Understanding and addressing pre-conditions – what conditions lead to offending and what can be done to address those underlying pre-conditions?
- Taking into consideration context, that is, conceptualising prevention and reintegration in terms of the whole person, their strengths and assets as well as skill deficits and presumed defects and their

operating environment and responding with supports that deliver locally relevant 'whole-of-person in context' solutions.

- Respecting the basic human rights of people who have paid their 'debt' by serving a sentence or order, as well as the rights and needs for restoration on the part of victims and society.

Underlying pre-conditions of criminal activity include mental illness, disability, and alcohol and/or drug dependency.

Approximately one-third of incarcerated people are receiving mental health treatment at the time of arrest. Almost half have a history of psychiatric treatment⁷⁵ and rates higher than the general population for anxiety, depression, personality disorders, bipolar disorder, schizophrenia, and alcohol or drug induced psychosis have been reported.⁷⁶

Intellectual disability has been reported at five to 10 times more prevalent among incarcerated people.⁷⁷ Traumatic brain injury (TBI) is also widespread; some studies reporting rates of almost 90 per cent among incarcerated people with significant brain injury estimated to affect 25 per cent of those incarcerated.⁷⁸

There are also several common underlying conditions that are correlated to criminal activity. In terms of education, two-thirds of incarcerated people have completed Year 10 or less. One-third have at least one chronic health condition such as diabetes, hepatitis C, or history of drug and alcohol abuse.⁷⁹ Approximately two-thirds of those returning to prison are unemployed at the time of their offence.⁸⁰ Children of incarcerated people are three to six times more likely to become offenders themselves⁸¹ indicating the effect of exposure to a criminal culture or simply the effect of being deprived of a functional parent. These are all conditions of general disadvantage.

It is well recognised that disadvantaged communities are generally characterised by low levels of education and income, high unemployment, as well as high rates of drug and alcohol abuse, mental ill-health, domestic violence, and involvement in the criminal justice system.

Individuals and families within disadvantaged communities struggle to change these entrenched patterns. Currently 50 per cent of Victoria's prisoners come from six per cent of the most disadvantaged postcodes.⁸²

Assisting individuals to reintegrate post-release and supporting others to avoid offending altogether through relevant local support services will benefit those individuals, their families, the entire local community and society at large.

How do we break this cycle of offending? There are some promising practices emerging in Australia and overseas. Engaging former offenders, particularly those formerly incarcerated, in the reintegration process is one. People who have successfully broken a cycle of crime are arguably best-placed to assist and support others avoid the pathway into crime and navigate the pathway out.

Establishment of local community support hubs in disadvantaged communities with a history of high rates of offending and incarceration offers a potential solution to chronic persistent disadvantage and entry into the criminal justice system by providing various supports that build healthy communities.

Ideally, hubs should be available to all people in need within a community. Offenders/ex-prisoners are not the only people in need within disadvantaged communities, and transition support hubs should be located within those communities because that is where the greatest concentrations of offenders are living.

Lastly, strong partnerships comprising local communities and government in a whole-of-government approach to resolving the multiple, complex, often interactive needs in those communities is required.

There is evidence of success in reducing offending and re-offending both internationally and in Australia. Whole-of-government approaches combined with community initiatives have been successful in lowering crime and incarceration in Scandinavian countries and in New Zealand.

International examples of offender-led crime prevention and offender reintegration programs include *User Voice* in the UK, *Just Leadership USA* and *KRIS* in Sweden.

The hub concept has been applied in other, more specific contexts in Australia and abroad including for domestic violence and family services, as well as mental health and ancillary services. A strong central coordination function is needed for a hub to work.

Impediments in moving to a smarter justice approach include a widely expressed, uninformed, distorted community view of who is offending and the nature of the crimes being committed, media promulgation of this misunderstanding and the need for a tough on crime punitive approach, and risk aversion on the part of many political leaders. This is arguably related to the long-term response required to demonstrate positive change and the short electoral cycle within which we operate.

The relative disaggregation of government in terms of local, state and federal levels, and in terms of departments such as health, housing, and community services also acts as a barrier to systemic change. Action will be necessary to turn these inhibitors around.

In summary, offenders are, to a large extent, people experiencing a range of health and social issues as well as material circumstances associated with extreme disadvantage. They live within communities identified as disadvantaged and a large portion of crime is non-violent.

Adopting a smart on crime approach as described above will reduce disadvantage-driven offending, enhance prospects for a healthy and productive life for those who have offended, and improve conditions within disadvantaged communities.

The smart approach will likely lead to reduced incarcerations and a safer society. Consequences of continuing with the simplistic tough approach include a continuing increase in criminal justice system costs and total cost of crime to community and society. Tough does not offer a preventive, rehabilitative or restorative solution.

Smart does.

CRITICAL SERVICES PERSPECTIVE NINE

The role of co-operatives and mutuals in human service delivery

Melina Morrison

CEO Business Council of Co-operatives and Mutuals (BCCM)

By 2024, health and social assistance services are expected to employ 1.8 million people or 13.4 per cent of total employment.

The growth of the aged and disability care sectors will see 60,000 more full-time disability carers needed by 2019 and an increase from 366,000 aged care workers in 2016 to 980,000 needed by 2050.

Care is no longer a one-way relationship between the service provider and the people who use services. The NDIS empowers people with disability to have choice and control with access to the necessary and reasonable supports they need to live an ordinary life. And so, it is too in aged care where consumer directed care gives service users and their carers the choice of service providers. However, as we live longer, Australians will need to re-shape the ageing experience to

give choice and control new meaning in aged care and fix the problems associated with the negative stereotypes about being old.

These big social changes demand new solutions, which can adapt to the demand for autonomy and choice.

The co-operative and mutual sector has been at the forefront of developing new business models based on member (stakeholder) ownership. There is a co-operative revival in health and human services. The Co-operative Life is a fast-growing worker co-operative in the NDIS offering quality, stability and predictability to participants and enabling the workers – who are co-owners – to co-design the business together and share in any surplus from their labour.

The National Health Co-operative is a consumer owned primary health care enterprise, increasing access to GPs and allied health services in the ACT and regional NSW. Nundah is a great example of a worker co-operative where people who faced challenges getting work have been gainfully employed for over a decade through social procurement programs run by local councils and social enterprise.

From the user perspective, these solutions can include pooling purchasing power in arrangements like co-operative housing, allowing users to share in the housing costs including modifications, as well as pool their budgets and collectively organise support services. SILC – which stands for Supported Independent Living Co-operative – has been co-designed by families, NDIS participants and staff. It breaks through the barriers faced by people with disability and their families and aims to support them to find housing they are happy with and that meets their needs.

Around the country, there are also initiatives bringing people together to design housing and care co-operatives which reflect how they would like to live as they move through the stages of older age. These include options to collectively build and co-locate services in their retirement living housing.

How it works

When co-operatives and mutual enterprises (CMEs) are well-designed, their governance and legal form reflects the international co-operative principles that include open voluntary membership, member democratic control and member economic participation. The over-riding purpose of a CME is to serve its members, who can be either consumers, workers, enterprises or a combination of these.

This means the members are front and centre of why and how the enterprise operates. In consumer-directed services like the NDIS and aged care, having choice and control is vital in delivering quality services. CMEs combine sound business and commercial enterprise with social purpose. Rather than distributing surpluses to private investors, CMEs invest in member benefits. Thus, they prevent the leakage of value from vital services.

Various reviews including the Harper Review, the McClure Social Welfare Reforms and the Productivity Commission Human Services Inquiry highlighted the opportunities for more co-operatives and mutuals especially in Indigenous service delivery and health and care in regional Australia.

Well-designed co-operatives and mutuals can increase productivity in human services.

The UK Mutuals Program has been in place for over a decade in the UK. So successful has it been, it was recently re-launched with a new Mutuals Support Program where public servants are supported to ‘spin out’ of government and form employee owned mutuals. These mutuals have been found to have higher consumer and staff engagement than when they operated in government, and to be more agile and responsive to change. Research conducted by EY in the US shows worker-owned businesses have 4–5 per cent higher productivity, lower staff turnover and less absence due to sickness than traditional business models.

“If the aim is for higher quality, greater user and worker wellbeing, more community involvement, enhanced accountability at an efficient price, then the most effective providers are neither government agencies or private organisations. They are a hybrid of both.”⁸³

Professor Julian Le Grand, London School of Economics

Co-operatively owned platforms are transforming care delivery

The early optimism of the platform economy has soured as private technology owners tried to make the business model profitable at the expense of workers and service users. Platform co-operatives are emerging in their place. These platforms are co-operatively owned, democratically governed businesses that establish a digital platform, and use a protocol, website or mobile app to facilitate the sale of goods and services.

Co-operatively-owned platforms have lower transaction costs, invest surpluses in community benefit, protect users and workers from being exploited, and have a higher commitment to achieving long term goals.

Through the Platform Cooperativism Consortium (PCC) and also supported by Google.com, The Co-operative Life has been included in a global initiative to create and distribute the Platform Development Kit. While this is a new concept in Australia, there are successful platform co-operatives overseas. For instance, Stocksy United, formed in Canada, enables 900 photographers to distribute quality photographs and video footage in 63 countries. The image makers own the platform, so they are not just price takers.

Co-operatising instead of corporatising

Co-operatives are increasingly gaining governments' attention as an alternative service delivery model for human services. In South Australia, former public servants set up an employee led public service mutual to deliver early childhood early intervention and allied health services.

This arrangement gives the worker-owners control over the decision-making processes of the organisation, a level of autonomy which LSE Professor Julian Le Grand⁸⁴ has found leads to positive outcomes for both the workers and the service users of highly motivated public service mutuals. Introducing this alternative service delivery model into the market creates a 'race to the top' on quality, while keeping costs under control. Ultimately this will put pressure on non-government providers to match the co-operative standards if they want to compete in the market place.

What governments can do to support more CME innovation

Recent Commonwealth government announcements to amend the Corporations Act to include mutuals is a breakthrough policy development that will make it easier for mutuals in Australia to raise capital without having to de-mutualise. With bi-partisan support, this was a major recommendation from a 2016 Senate Inquiry into co-operatives and mutuals. The Senate Inquiry also found that information and awareness of the co-operative and mutuals business model was a barrier to formation.

In order to further support service innovation by the co-operative and mutual sector, governments need to review current regulation and cut the red tape which can make establishing a CME unnecessarily arduous. To allow people to create housing and care co-operatives, it is necessary to examine how current capital gains tax laws might penalise such an investment and find ways around these disincentives. Whenever government is tendering for services, or selling off public assets, CME providers should be treated on a level playing field as other organisation forms.

Finally, in some circumstances where cooperation wins out over competition, governments could support the development of more co-operatives and mutuals with initiatives similar to the UK Mutuals program. The BCCM recently hosted a delegation of Australian policy-makers and service providers to examine how this program has developed in the UK for over a decade. We observed it has made an important contribution to changing the culture of services, especially in health and human services where it has increased diversity and choice for service users and commissioners as well as lifting productivity.

As aged care and disability support becomes more consumer directed, there is also an opportunity to democratise digital platforms so they are co-operatively owned, rather than privately owned. This would promote innovation and support new business models to emerge around the provision of user-centric information and guidance on how to access services bringing new meaning to choice and control as well as building confidence around privacy concerns.

Other opportunities for the development of co-operatives and mutuals could include place-based initiatives to achieve economic and social development in areas of persistent disadvantage and in thin markets. There is also interest in the model from Indigenous communities who see its strength is in fostering an ownership culture and self-determination.

How we choose and deliver care and support services will define our society in years to come. We must encounter this looming challenge with imagination, innovation and cooperation.

Healthcare of the future

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What is the ultimate aim or objective we should be seeking to achieve?

The year is 2030. Australians have equal access to appropriate health and human services when and where they require the service, regardless of their geography and other demographic characteristics.

Health and human services are provided seamlessly, with integration of services across sectors, recognising the unique consumer journey which each individual may encounter.

Service delivery and funding mechanisms recognise the inherent link between health outcomes and the social determinants of health, and are indeed both driven by the consumer and their unique requirements, preferences, or directives.

Healthcare of the future is:

- available on demand
- personalised
- connected
- effective.

The consequences of getting it wrong

The year is 2018; present day Australia. Healthcare and life sciences are facing major challenges – technological change with vast disruptive potential, a constrained funding environment, changing population needs and consumer sentiment all create drivers and opportunities for transformation in the health sector and adjacent sectors (e.g. aged care and human services).

The fundamental problem is how to sustainably deliver high-quality, accessible care to the people who need it at the right time, in the right place and with the right intervention. Solutions that have worked well in the past, like reducing length of stay and increasing workforce productivity, are not sufficient for this challenge.

The Australian health system will fail to meet the needs of Australian citizens, and moreover fail to access strategic opportunities for growth and improvement in consumer outcomes, if we cannot keep pace with changes occurring in technology, research and development, consumer demands, and the shifting demographics of our population.

However, new technology, service and business models create the opportunity to influence consumer demand and the sector's response.

The potential benefits

Tackling the complexity of the future of Australian healthcare will take both focus and discipline – but this effort will pay dividends for both patients and healthcare providers.

KPMG Australia's recent report titled *Healthcare Reimagined*, outlines a number of tactics to move healthcare into the future⁸⁵. A selection of these innovations and predictions are summarised below.

Available on demand

The use of technologies like drones and autonomous vehicles will aid in the delivery of medical products to remote regions, or in redirecting paramedics to patient facing functions.

Affordable and user-friendly telehealth platforms and in-home monitoring devices will make in-home patient monitoring the norm, allowing caregivers to be notified in real-time of any incidents and improving on-demand access to healthcare services across Australia.

All patients – those with multiple chronic conditions and infrequent users of the health system – will be genuinely and *actively* in control of where, how and by whom their healthcare is delivered. More intelligent telehealth platforms and tele-diagnostic equipment will mean that all but the most acute episodes of care can be delivered in patients' homes, offices, or indeed wherever they choose to access the Internet. This will profoundly change the experience of healthcare for people in regional and rural communities and, crucially, their perception of their role in relation to the health system.

This will also have a profound impact on the specialist workforce – perhaps the most expensive and scarce resource the health system has.

Fewer specialists will be able to cover a much broader area and health systems will be able to deploy their specialist workforce in a far more efficient way. Moreover, further diffusion of technology – for example robotically assisted surgery – will extend the working lives of specialists through improved ergonomics and reduced work-related musculoskeletal wear and tear.

Personalised

A focus on patient experience and consumer centricity will result in a better experience for both the consumer and clinician. Patients who are more engaged in their care feel respected and treated as

an individual, receive care tailored to their values, and are more likely to follow treatments which ultimately leads to improved health outcomes. A focus on the patient experience by healthcare providers can also lead to reduced length of stay, and improved staff engagement^{86,87}.

New hospitals which consider human-centric design will have the potential to improve overall patient wellbeing, reduce microbial threats and reduce the length of hospital stays, as our environment can play a crucial role in helping to normalise rest-activity cycles, sleep patterns, mood and pain.

Connected

The rise of wearable, ingestible and implantable sensors helps form the basis to engage and encourage patients to lead a healthy lifestyle, where the treating clinician can continuously track both health and wellness in real-time, while the patient has the ability to contribute relevant information directly into their record and share this with their treating clinician.

The use of digital and social platforms can engage consumers in a variety of ways including tracking medical progress, treatment adherence, reminders and scheduling, leading to improved self-management and psychological wellbeing.

Effective

Precision medicine will enable clinicians to select a treatment protocol based on the patient's data that may not only avoid harmful side effects and ensure a better outcome, but also enable earlier diagnosis, and better and safer treatments and associated costs⁸⁸.

Indeed, a step-change in investment in our national genomics and personalised medicine, formed the basis of a recommendation from Innovation and Science Australia to help make Australia the "healthiest nation on earth".

Data analytics will increasingly utilise the information stored in the unstructured clinical notes, deep within the medical record, to allow clinicians to draw conclusions on the best treatment for their patient when there is no published best practice.

Finally, Artificial Intelligence (AI), has been demonstrated to improve patient outcomes and reduce healthcare costs, when coupled with human clinical expertise.

What actions should Australia take?

Working out how to deliver high-quality healthcare to more patients with different and more complex needs and less funding, while responding to broader market disruption and consumer expectations, is a significant challenge for the entire healthcare industry. Healthcare organisations do not need to predict the future, but rather position themselves for multiple outcomes.

While there is no one path to success, there are a number of common elements for the Australian healthcare sector to consider in a cohesive preparation strategy:

1. Seize the opportunity to reorient your organisation around experience as a continuously measured driver of policy, service or product improvement. Engage consumers at all levels of your organisation, not only in the provision of service or care, but also in design, governance, research, evaluation and continuous improvement.
2. Understand the current workforce, and how it may need to evolve to meet future needs, with a particular lens on the impact of digital labour and collaboration between humans and technology. When designing human roles there needs to be an emphasis on empathy – clinicians should be providing the human element to patient interaction in spite of the increasing prevalence of technology.
3. Develop partnerships and alliances that can more effectively integrate patient care pathways through encouraging more coordinated delivery of care (e.g. aged care and health, primary care and acute care). Establish partner management capability to enable third parties to form part of the pathway where appropriate (e.g. retailers, technology providers and other adjacent third parties). Partnerships will need to be enabled from a technological perspective, which will require building an open technology ecosystem, investment in integration platforms and a particular focus on API management.
4. Be more focused on using data to inform decisions right now, and to predict the challenges we might face tomorrow. For example, consider identifying priority areas by identifying processes or treatments that have high error rates, and exploring whether clinical decision support, insights or predictions on complex data could help to solve the problem. Investing in big data, predictive analytics and AI capability is a critical enabler to a modern healthcare provider.

Delivering on these four priorities is no mean feat and the change required just to attempt them should not be underestimated. It will require a dramatic shift in the capabilities in the health system management workforce.

At an organisational level, this means enhanced, or completely new functions in the organisational structures of health sector organisations at every level. At an individual level, it means that health sector organisations will need to be able to attract or train individuals with completely new skillsets.

The task of actively reimagining and reshaping such a complex system cannot be done with the capabilities and the organisational structures that have been designed around the current system.



4.5 Institutions

Question for future
economic development:

How do we strengthen
institutions and their role in
economic development?

WHY ARE INSTITUTIONS A PRIORITY FOR ECONOMIC DEVELOPMENT?

Chapter 2 highlighted the important role of institutions in Australia's economic development to date.

Much of the confidence that people have to go about their lives in a market economy comes from trust. A large part of that trust comes from faith in institutions – whether it is regulations, economic bodies like the RBA and the ACCC, Australia's federal system of government, business, not-for-profits or local institutions like hospitals, schools and universities.

We expect these institutions to be accountable and have the community's best interest at heart. For example, we expect regulators to monitor behaviour in the market and provide redress in the case of fraudulent and unlawful activity. Without trust in institutions people feel insecure and lack confidence. They lack an intrinsic sense of justice – that laws will be followed and when things go wrong, institutions will be on the individuals' side or seeking change where there are systemic failings.

This highlights the importance of institutions being adaptable and flexible to achieve long-term advances in prosperity. As Ian McLean points out in describing the role of institutions in Australia's prosperity: "More than once, as evidence accumulated that an institution was operating in a manner harmful to prosperity, it was either abolished or modified to make it growth promoting."⁸⁹

It is inevitable that making the shifts outlined in this chapter so far in terms of technology, workforce, population and service delivery will demand institutional renewal.

INSTITUTIONS – CURRENT ISSUES

A lack of trust in institutions is no longer limited to polls or surveys, it is playing out in revelations of institutional failure, most recently in the aged care and financial sectors.

In their full context, these revelations are about specific industries and companies, but they only serve to fuel broader community concerns about business, government and regulators. They also highlight much deeper concerns about the capacity of current institutions to keep pace with change – whether it is commercial, demographic or technological.

While Royal Commissions will forensically uncover misbehaviour and suggest new regulatory safeguards, putting Australia on a long-term path to better solutions to our current problems requires a serious renewal of our policy frameworks and institutions.

Professor Anne Tiernan and Jerath Head summarise the issues around the institutions of government and policy in Perspective 10:

“Beyond the public’s bewilderment at the revolving door of political leaders, three broad themes recur. First, that economic insecurity and concerns about ‘fairness’ – the extent to which the benefits of economic growth have been widely shared – are fuelling discontent. Second, that policy-makers need to develop better informed, more nuanced understandings of the communities they are elected to serve. And finally, that ‘place’ is assuming greater significance in an increasingly complex, diverse and spatially differentiated governance context.”

These are major challenges for both politicians and the public service. In recent years, a number of former senior public servants argued that a Royal Commission or independent review of the Australian Public Service (APS) was necessary.⁹⁰ David Thodey AO is currently leading an independent review of the APS. The arguments made by former public servants to examine how the APS remains fit for purpose included:⁹¹

- changing community attitudes and standards
- the way in which Ministers, Ministerial Advisers and public servants work together has changed
- the significant increase in outsourcing of service delivery
- the public service’s lack of knowledge of regional variation in economic circumstances
- lack of structured evaluation of programs and policies to understand what does and doesn’t work
- the inability of large government programs to address longstanding societal problems like entrenched disadvantage and long-term unemployment.

Tiernan and Head provide some cause for optimism. They demonstrate that place-based solutions that empower local institutions can create opportunities and wellbeing in communities. It is unrealistic to think that large centralised government programs and increasing expenditure will address all societal problems. There is room for more innovative and collaborative approaches between government and a range of players.

The relationships between levels of government are also incredibly important to making progress on critical issues. The Productivity Commission’s five-year productivity review *Shifting the dial* had 28 recommendations – 23 of them involve coordination and cooperation between levels of government – on health, education and infrastructure. Apart from current moves to alter the distribution of GST revenues, changes in the federation have been off the agenda since the *Federation White Paper* process was abandoned in 2016.

Australia’s federation is generally at its best when it chooses the right issues on which to compete (e.g. tax reform) and to collaborate (e.g. regulatory simplification). Achieving this requires:

- a long-term intergovernmental reform agenda
- durable intergovernmental funding arrangements in areas like health, education and infrastructure to underpin planning and innovation of service delivery
- oversight and transparency.

Each of these elements are currently lacking or deficient in the Federation.

Australia's institutions are currently under significant pressure across a range of areas. But Australia's institutional flexibility and adaptability is unlikely to be lost forever – the role of anchor institutions offers an example of this.

Renewing Australia's institutions can have a catalytic effect on progressing the other priorities outlined here and restoring community trust and confidence in the capacity of Australians to confront and address major challenges to secure ongoing prosperity.

INSTITUTIONS – CEDA'S PRIORITIES AND FOCUS

CEDA's aim is to renew key institutions to rebuild trust through transparency and to enable collaboration and innovation. CEDA will seek to support this by focusing its efforts, research and advocacy on:

- re-establishing a long-term intergovernmental reform agenda
- increased transparency of program evaluation and performance across all levels of government
- prioritising data access and sharing in support of better program design and implementation
- promoting the exchange of information on place-based and hand-made initiatives, facilitate peer-reviews, evaluation and mutual learnings as a means of encouraging greater reliance on co-designed, place-based initiatives
- collaborate across sectors to support the development of greater capacity in the public sector to effectively develop, manage and implement co-designed initiatives.

INSTITUTIONS PERSPECTIVE ELEVEN

Anchor institutions: platforms for inclusive growth

Professor Anne Tiernan

Dean (Engagement) Griffith Business School

Jerath Head

Research Assistant, Policy Innovation Hub

If Australia's political parties were capable of learning, they might reflect on what the same-sex marriage survey and recent election and by-election results at both state and federal levels reveal about voter attitudes towards the prevailing social and political climate.

Beyond the public's bewilderment at the revolving door of political leaders, three broad themes recur. First, that economic insecurity and concerns about fairness – the extent to which the benefits of economic growth have been widely shared – are fuelling democratic discontent.

Second, that policy-makers need to develop better-informed, more nuanced understandings of the communities they are elected to serve. And finally, that 'place' is assuming greater significance in an increasingly complex, diverse and spatially differentiated governance context.⁹²

Yet, despite a growing awareness of these issues, CEDA's *Community Pulse 2018* report demonstrated they are still to be fully understood by Australia's policy elites.

Respondents to CEDA's *Community Pulse* survey cited access to reliable and affordable public services as fundamental to their quality of life; and expressed concern about growing inequality. This underscores the resilience of Australia's distinctive public policy tradition, which was founded on a strong commitment to social protection and to insulating people against vulnerability to exogenous shocks.⁹³

As the Abbott Government discovered when its 2013–14 Budget was repudiated by many of the voters who had supported the Coalition to power, whether or not people thought that personally they would be worse off, they were concerned about the impact that savings and other measures would have on their children, grandchildren and friends.

Politicians and their advisers would do well to heed Australians' instinct for more inclusive and distributionally fair policies, particularly outside the nation's populous and prosperous southern capitals.

The Productivity Commission's 2018 research paper, *Rising inequality? A stocktake of the evidence*, provides an empirical basis for these sentiments. It concludes that while Australia fares comparatively well on inequality measures globally, inequality within Australia has continued to rise in recent years. Economic growth has not been inclusive, particularly for those in the lowest income deciles for whom inequality is entrenched.

The dilemma is that, like growth and prosperity, inequality is not evenly distributed. Poverty and disadvantage are not experienced by people only as members of particular demographic groups and cohorts (e.g. Indigenous Australians, young parents, the long-term employed, older single women), but can also be concentrated spatially and associated with a particular place.

Given these cohorts may also be affected by economic, social, and environmental factors that are specific or distinctive to a relatively small geographic area, governments at all levels have, unsurprisingly,

found it difficult to design and successfully implement policies that are appropriately nuanced to context and local need. Their persistent incapacity to do so, despite 40 years of almost continuous reform to public service systems, accounts in part for the loss of confidence in government that is so clearly reflected in the Australian Election Study⁹⁴ and the Edelman Trust Barometer.⁹⁵

Political churn and the relentless drive to centralisation that has characterised Australian politics in recent decades obscure the fact that, at the local level, individuals, groups and communities have both the capacity and the will to act together in the service of their collective wellbeing.

A better understanding of these capacities, and of how to foster and support them, should be part of the response to the urgent national imperative of restoring confidence and trust in our political, business and civic institutions.

Anchor institutions and the potential of place

Place-based approaches have a long tradition in Queensland, where the challenges of demography, decentralisation, spatial differentiation and trade-exposed industries have always loomed large.

Here, as in other parts of Australia and internationally, there is growing interest in how different types of community capital⁹⁶ can be harnessed to create opportunity and wellbeing; and increasing recognition of the role that anchor institutions can play in this development.

Anchor institutions "combine long-standing social connections with enduring capacities to support community development".⁹⁷ They include universities, local governments, hospitals, schools, chambers of commerce, or consortia of community groups that serve as enablers and stewards of a community's wealth and capacity.

Anchor institutions are a form of 'sticky capital' in that they are unlikely to close down or relocate from their community⁹⁸, and they play an important role in community wealth-building due to their capacity as large employers, their sizeable procurement spending, and their infrastructure (including land and facilities) and assets.⁹⁹ Because of their engagement in national and global markets, anchor institutions play important roles in linking broader macroeconomic developments with hyperlocal issues to create opportunity, prosperity and inclusive growth.

Universities have been anchor institutions since their inception, playing critical roles in the economic, social and cultural development of their communities and regions. Many, particularly in rapidly growing or disadvantaged communities and those affected by economic restructuring, have embraced their civic mission¹⁰⁰ and their role as key actors in innovation ecosystems and the knowledge economy.¹⁰¹

Universities are major employers; they spend significant money on local goods and services; and they draw knowledge workers and residents in the form of academic and professional staff, domestic and international students, which promotes local spending.

Universities build human capital by providing education and lifelong learning for local residents, often via multiple pathways that allow for a diversity of opportunity; they have extensive embedded networks that link academics, students, community members, local businesses; and they are likely “to be relatively immune to institutional failure or sudden contractions in size, which means they are potentially a source of stability in local economies and can help buffer against the worst effects of periodic downturns”.¹⁰²

This effect is more pronounced in smaller, less-competitive regions, which are often more dependent on universities for employment and innovation than larger metropolitan areas.¹⁰³

Decades of increasing regionalisation of national economies in the late 20th and early 21st centuries resulted in both an expectation (at the political level) and potential for universities – as anchor institutions – to play an even greater role in local economic and human capital development.¹⁰⁴

Universities as enablers of inclusive growth and prosperity: Griffith University’s Logan Campus

Logan City is a local government area, just south of Brisbane. Despite being one of the most rapidly growing cities in Queensland,¹⁰⁵ Logan has, and continues to experience, disproportionate levels of disadvantage. The city has 73 per cent more people in the lowest quintile for relative social disadvantage compared to the state average;¹⁰⁶ 19 per cent of Logan families have no parent employed;¹⁰⁷ 25 per cent more people in Logan are from non-English speaking backgrounds;¹⁰⁸ and 49 per cent fewer people have a bachelor’s degree (or higher) compared to the national average.¹⁰⁹

However, Logan also has extraordinary strengths: civic and social capital; cross-sectoral leadership with demonstrated capacity to collaborate to address local priorities;¹¹⁰ and a reservoir of innovation and entrepreneurship, including among its comparatively young (50 per cent of Logan’s residents are aged 30 or younger)¹¹¹ and highly diverse population. It also has anchor institutions with a deep commitment to the health and wellbeing of the city and its residents.

Griffith University established its Logan campus in 1998 in response to “the enthusiasm and aspirations of the Logan community to bring about change in...a disadvantaged region”.¹¹²

A process of extensive community engagement, and consultation with local, state and federal government representatives, led to the development of a suite of teaching, research and community service activities tailored to local needs and potential areas of employment growth both locally and abroad.¹¹³

In its first 20 years, the Logan campus has made significant contributions to the community. It has been recognised as an exemplar in facilitating local access to higher education for high school and vocational students.

Almost 9000 students have graduated across human services and social work, nursing and midwifery, public health, education, business, IT and management. Of these, 185 have been Aboriginal and Torres Strait Islander students, reflecting completion rates well above the national average. Many graduates are prominent and influential members of the Logan community and maintain strong ties with Griffith University.

A strong focus on community integration, local development and regional capacity-building has been an ongoing feature of Logan campus activities and partnerships. A variety of community-based cultural and sporting events and wellbeing initiatives are facilitated on-campus. Furthermore, collaboration enables the university to engage in the mutual and reciprocal sharing of knowledge, expertise, facilities and resources with networks of partners in the community, industry, government, and civic institutions – and thus leverage its capacity as an anchor institution. For example, Griffith Logan is a key partner with initiatives such as Logan Together (a whole-of-community project aimed at improving health and education outcomes for 5000 children in the region) and the Australian Regional Innovation Partnership Program (with the Queensland Government, which links

local entrepreneurs, business leaders and key industries to government and provides local start-ups and entrepreneurs with resources, networks and mentors).

Griffith's Logan campus provides a case study of how universities can provide a collaborative platform for identifying, harnessing and supporting their communities' extant capitals. Informed by community consultation, agreed priorities and appropriately nuanced data, anchor institutions have significant potential to catalyse and drive prosperity, wellbeing and resilience in the local places in which they play such significant parts.

ENDNOTES

- 1 Campbell, S and Withers, H., 2017, 'Australian productivity trends and the effect of structural change', in Commonwealth Treasury's Economic Roundup, 28 August, p.2.
- 2 Philipson, G., 2018, 'Can innovation save capitalism?', Accessed 2 October 2018 from <https://www.innovationaus.com/2018/10/Can-innovation-save-capitalism>
- 3 Parham, D., Roberts, P. and Sun, H., 2001, Information Technology and Australia's Productivity Surge, Productivity Commission Staff Research Paper, AusInfo, Canberra.
- 4 CSIRO Data 61 & AlphaBeta, 2018, Digital Innovation: Australia's \$315b opportunity.
- 5 Stucke, M., 2018, 'Here Are All the Reasons It's a Bad Idea to Let a Few Tech Companies Monopolize Our Data', *Harvard Business Review*, 27 March
- 6 Finkel, A., 2018, 'What will it take for us to trust AI?', speech delivered 12 May, Accessed from <https://www.weforum.org/agenda/2018/05/alan-finkel-turing-certificate-ai-trust-robot/>
- 7 Guarascio, F., 2018, 'EU aims at deal on digital tax by year end: document', Reuters, 4 September. Accessed from <https://www.reuters.com/article/us-eu-tax-digital/eu-aims-at-deal-on-digital-tax-by-year-end-document-idUSKCN1LK1MA>
- 8 Gordon, R., 2016, *The Rise and Fall of American Growth*.
- 9 Frankel, J., 2018, 'Is new technology hurting our productivity?', Weforum, 21 March. Accessed from <https://www.weforum.org/agenda/2018/03/is-technology-hurting-productivity>
- 10 Andrews, D., Nicoletti, G. and Timiliotis., C, 2018, 'Digital technology diffusion: A matter of capabilities, incentives or both?', OECD Economics Department Working Papers, No. 1476. Paris: OECD Publishing. Accessed from <https://doi.org/10.1787/7c542c16-en>.
- 11 Andrews, D., Nicoletti, G. and Timiliotis., C, 2018, 'Digital technology diffusion: A matter of capabilities, incentives or both?' p.3.
- 12 Roth, S., 2018, Capital's share of income is way higher than you think, *Economics*, 18 May. Accessed from <http://economics.com/capitals-share-of-income-is-way-higher-than-you-think/>
- 13 Egan, M., 2018, 'Tax cut triggers \$437 billion explosion of stock buybacks,' *CNN Money*, 10 July. Accessed from <https://money.cnn.com/2018/07/10/investing/stock-buybacks-record-tax-cuts/index.html>
- 14 Lowe, P., 2014, 'Address to the Australian Business Economists (ABE) Annual Dinner, Sydney, 25 November.
- 15 ABS, 2018, Labour Force, Australia, August 2018, Catalogue No. 6202.0.
- 16 World Economic Forum, 2016, *The Future of Jobs Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*, January.
- 17 OECD, 2017, *OECD Skills Outlook 2017: Skills and Global Value Chains*, Paris: OECD Publishing. Accessed from <http://dx.doi.org/10.1787/9789264273351-en>
- 18 QILT, 2018, Graduate Outcomes Survey.
- 19 Foundation for Young Australians (FYA), 2017, *The New Work Smarts*, Accessed from https://www.fya.org.au/wp-content/uploads/2017/07/FYA_TheNewWorkSmarts_July2017.pdf
- 20 Ryder, G., 2018, Statement to G20 Education and Employment Ministers' Meeting, 6 September. Accessed from https://www.ilo.org/global/about-the-ilo/how-the-ilo-works/ilo-director-general/statements-and-speeches/WCMS_644530/lang--en/index.htm
- 21 ABS, 2017, Characteristics of employment, Australia, Catalogue No. 6333.0
- 22 Department of Jobs and Small Business, 2018, Historical trends data current quarter, July. Accessed from: <https://docs.jobs.gov.au/documents/historical-table-current>
- 23 Pearce, Don, *Cool Hand Luke*.
- 24 Australian Centre for Future Work, 2018, *Workers' Shrinking Slice*, 7 September.

- 25 Hatch, P., 2018, 'In Amazon's 'hellscape', workers face insecurity and crushing targets,' *Sydney Morning Herald*, 7 September.
- 26 Superannuation Trust of Australia, 2000, *The Future of Investing in Manufacturing*.
- 27 Nedelkoska and Quintini, 2018, *Automation, Skill Use and Training*, OECD; sometimes quoted as 14 per cent.
- 28 AMWU, 2013, *A Smarter Australia*.
- 29 World Economic Forum, 2018, *Preparing for the Future of Work*.
- 30 Frey, CB and Osborne, M., 2013, *The future of employment: How susceptible are jobs to computerisation?* Oxford Martin.
- 31 For example, McKinsey & Company, 2017, *A Future That Works: Automation, Employment, And Productivity*.
- 32 McKinsey & Company, 2018, *Managing the next transition: Automation and the future of the Australian workforce*.
- 33 OECD, 2016, *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*, OECD Social, Employment and Migration Working Papers.
- 34 McKinsey & Company, 2018, *Managing the next transition: Automation and the future of the Australian workforce*.
- 35 McKinsey & Company, 2018, *Managing the next transition: Automation and the future of the Australian workforce*.
- 36 Deloitte, 2018, *Higher education for a changing world*.
- 37 Commonwealth of Australia, 2015, *Intergenerational Report: Australia in 2055*, March.
- 38 International Monetary Fund (IMF), 2017, 'Regional Economic Outlook: Asia and Pacific', World Economic and Financial Surveys. Washington DC.
- 39 Treasury and Department of Home Affairs, 2018, *Shaping a Nation: Population growth and immigration over time*.
- 40 Treasury and Department of Home Affairs, 2018, *Shaping a Nation: Population growth and immigration over time*.
- 41 Terrill, M., Batrouney, H., Ha, J. and Hourani, D., 2018, *Remarkably adaptive: Australian cities in a time of growth*. Melbourne: Grattan Institute.
- 42 Tran, N., Roos, L., Giesecke, J., and Madden, J., 2015, 'Regionally targeted migration policy as an instrument for regional development: a general equilibrium assessment.' Presented at the 18th Annual Conference on Global Economic Analysis, Melbourne, Australia. Global Trade Analysis Project (GTAP). West Lafayette, IN: Purdue University. Accessed from https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=4740
- 43 Allen, L., 2017, 'Australia doesn't have a population policy – why?', *The Conversation*, 3 July. Accessed 9 August 2018 from <https://theconversation.com/australia-doesnt-have-a-population-policy-why-78183>; Allen, L., 2011, 'Sustainable population strategy: Public policy and implementation challenges'. ASSA Academy Proceedings, 2011: 2. Accessed 9 August 2018 from <https://www.assa.edu.au/wp-content/uploads/2017/03/AP22011.pdf>
- 44 Rayner, J., 2016, *Generation Less: How Australia is Cheating the Young*, Carlton, VIC: Black Inc.; Wilkins, R., 2017, *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 15: The 12th Annual Statistical Report of the HILDA Survey*, Melbourne Institute: Applied Economic & Social Research The University of Melbourne. Accessed 12 September 2018 from https://melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0010/2437426/HILDA-SR-med-res.pdf
- 45 ABS, 2017, Life Tables, States, Territories and Australia, 2014-2016, cat. no. 3302.0.55.001. Canberra: Australian Bureau of Statistics. Accessed 12 September 2018 from <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3302.0.55.001Main%20Features22014-2016?opendocument&tabname=Summary&prodno=3302.0.55.001&issue=2014-2016&num=&view=>

- 46 ABS, 2014, Australian Historical Population Statistics, 2014, cat. no. 3105.0.65.001. Canberra: Australian Bureau of Statistics. Accessed 12 August 2018 from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3105.0.65.001>; ABS, 2018, Australian Demographic Statistics, Sep 2017, cat. no. 3101.0. Canberra: Australian Bureau of Statistics. Accessed 9 August 2018 from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/819D0CD114A1BACFCA2582B20017D835?opendocument>
- 47 Treasury, 2018, *Shaping a Nation: Population growth and immigration over time*, Canberra: The Treasury. Accessed 13 August 2018 from <https://cdn.tspace.gov.au/uploads/sites/107/2018/04/Shaping-a-Nation-1.pdf>
- 48 McDonald, P., 2003, 'Australia's future population: Population policy in low-fertility society'. In Khoo, S. and McDonald, P. (eds) *The Transformation of Australia's Population 1970 – 2030*. Sydney: UNSW Press.,.
- 49 ABS., 2013, Population Projections, Australia, 2012 (base) to 2101, cat. no. 3222.0. Canberra: Australian Bureau of Statistics. Accessed 10 September 2018 from [http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3222.0Main+Features12012%20\(base\)%20to%202101?OpenDocument](http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3222.0Main+Features12012%20(base)%20to%202101?OpenDocument)
- 50 Allen, L., 2018, 'Migration helps balance our ageing population – we don't need a moratorium', *The Conversation*, 23 July. Accessed 9 August 2018 from <https://theconversation.com/migration-helps-balance-our-ageing-population-we-dont-need-a-moratorium-100030>
- 51 ABS, 2018, Migration, Australia, 2016-17, cat. no. 3412.0. Canberra: Australian Bureau of Statistics. Accessed 10 September 2018 from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/3412.0Main%20Features12016-17?opendocument&tabname=Summary&prodno=3412.0&issue=2016-17&num=&view=>
- 52 Kulu, H. and Steele, F., 2013, 'Interrelationships Between Childbearing and Housing Transitions in the Family Life Course', *Demography*, 50:5, pp. 1687-1714.
- 53 Allen, L., 2018, 'FactCheck: is Australia's population the 'highest growing in the world'?', *The Conversation*, 13 July. Accessed 9 August 2018 from <https://theconversation.com/factcheck-is-australias-population-the-highest-growing-in-the-world-96523>
- 54 ABS, 2018, Regional Population Growth, Australia, 2016-17, cat. no. 3218.0. Canberra: Australian Bureau of Statistics. Accessed 9 August 2018 from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3218.0>
- 55 ABS, 2018, Migration, Australia, 2016–17, cat. no. 3412.0. Canberra: Australian Bureau of Statistics.
- 56 See Carey, G., 2016, *Grassroots to Government*. Melbourne: Melbourne University Press.
- 57 ABS, 2017 (October), Australian System of National Accounts, 2016-17, Catalogue No. 5204.0.
- 58 Productivity Commission, 2017, *Shifting the Dial: 5 Year Productivity Review*, Report No. 84, Canberra. p.157.
- 59 Williams, P., 2018, 'Declaring the NEG dead is premature, says Energy Security Board chair Kerry Schott', *The Australian*, 10 October. 2
- 60 Productivity Commission, *National Water Reform*, Report no. 87, Canberra.
- 61 Productivity Commission, *National Water Reform*, Report no. 87.
- 62 ABS, 2018, Australian Demographic Statistics, Mar 2018, Catalogue No. 3101.0; Commonwealth of Australia, 2015, 2015 Intergenerational Report: Australia in 2055.
- 63 Productivity Commission, 2017, *National Disability Insurance Scheme (NDIS) Costs, Study Report*, Canberra.
- 64 AIHW, 2018, *Mental health services in Australia*. Accessed from <https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-contents/summary-of-mental-health-services-in-australia>
- 65 AIHW, 2018, *Mental health services in Australia*.
- 66 Parliamentary Budget Office, Trends affecting the sustainability of Commonwealth taxes. Accessed from: https://www.apb.gov.au/~media/05%20About%20Parliament/54%20Parliamentary%20Depts/548%20Parliamentary%20Budget%20Office/Reports/Research%20reports/02_2018%20Sustainability%20of%20Australian%20taxes/Trends%20affecting%20the%20sustainability%20of%20Commonwealth%20taxes%20-%20PDF.pdf?la=en

- 67 Roy Morgan, 2018, *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2018*. Accessed from <https://digitalinclusionindex.org.au/wp-content/uploads/2018/08/Australian-digital-inclusion-index-2018.pdf>
- 68 Innes, T., 2018, 'How digital connectivity is helping Australian small businesses thrive,' Small Business Insights, Xero & Alphabet9 October. Accessed from <https://www.xero.com/small-business-insights/new-report-how-digital-connectivity-is-helping-australian-small-businesses-thrive/>
- 69 Mayhew P., 2003, *Counting the costs of crime in Australia: technical report*. Technical and background paper series No. 4. Canberra: Australian Institute of Criminology. Accessed from <https://aic.gov.au/publications/tbp/tbp004>
- 70 SCRGSP (Steering Committee for the Review of Government Service Provision), 2016, *Report on Government Services 2016*, vol. C. Canberra: Justice, Productivity Commission. Accessed from <https://www.pc.gov.au/research/ongoing/report-on-government-services/2016/justice/rogs-2016-volume-c-justice.pdf>; Sarre, R., 2017, 'How to cut Australia's \$48 billion crime bill', *The Conversation*, 14 March. Accessed from <http://theconversation.com/how-to-cut-australias-48-billion-crime-bill-73272>
- 71 ABS, 2018, *Corrective Services Australia Report*. Accessed from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4512.0>
- 72 Victorian Ombudsman, 2015, *Investigation into the Rehabilitation and Reintegration of Prisoners in Victoria*. Accessed from <https://www.ombudsman.vic.gov.au/getattachment/5188692a-35b6-411f-907e-3e7704f45e17>
- 73 Bagaric, M., 2015, 'Prisons policy is turning Australia into the second nation of captives,' *The Conversation*, 10 April. Accessed from <https://theconversation.com/prisons-policy-is-turning-australia-into-the-second-nation-of-captives-38842>
- 74 Department of Justice and Regulation, 2017, *Annual Report 2016-2017*. Melbourne: Victorian Government. Accessed from https://www.justice.vic.gov.au/sites/default/files/embridge_cache/emshare/original/public/2018/07/c4/1f36126a1/djr_annual_report_2016-17.pdf
- 75 Australian Institute of Health and Welfare, 2015, *The health of Australia's prisoners 2015*. Cat. no. PHE 207. Canberra: AIHW. Accessed from <https://www.aihw.gov.au/reports/prisoners/health-of-australias-prisoners-2015/contents/table-of-contents>
- 76 Butler, T., Andrews, G., Allnutt, S., Sakashita, C., Smith, N., and Basson, J., 2006, 'Mental disorders in Australian prisoners: a comparison with a community sample'. *Australian and New Zealand Journal of Psychiatry*, 40(3), 272-276. DOI: 10.1080/j.1440-1614.2006.01785.x
- 77 Baldry, E., Clarence, M., Dowse, L., and Trollor, J., 2013, 'Reducing Vulnerability to Harm in Adults With Cognitive Disabilities in the Australian Criminal Justice System.' *Policy and Practice in Intellectual Disabilities*, 10 (3), 222-229. DOI: <https://doi.org/10.1111/jppi.12039>
- 78 Shiroma, E., Ferguson, P., and Pickelsimer, P., 2012, 'Prevalence of Traumatic Brain Injury in an Offender Population: A Meta-Analysis.' *Journal of Head Trauma Rehabilitation*, 27 (3) E1-E10, DOI: 10.1097/HTR.0b013e3182571c14; Schofield, P., Butler, T., Hollis, S., Smith, N., Lee, S., and Kelso, W., 2006, 'Traumatic brain injury among Australian prisoners: Rates, recurrence and sequelae.' *Brain Injury*, 20:5, 499-506, DOI: 10.1080/02699050600664749
- 79 Australian Institute of Health and Welfare, 2015.
- 80 Graffam, J., Giles, M., Ollerton, J., Newton, D., Baldry, E., Yeo, E., and Crosbie, J., 2017, *Improving post-release employment outcomes for people leaving prison: Results from a national survey of employment services*. Sydney: UNSW. <http://doi.org/10.4225/53/59f8fc3647553>
- 81 Conway, J. and Jones, E., 2015, *Seven out of ten? Not even close. A Review of Research on the Likelihood of Children with Incarcerated Parents Becoming Justice-Involved*. Central Connecticut State University, Institute for Municipal and Regional Policy. Children with Incarcerated Parents Initiative. Accessed from <https://nicic.gov/seven-out-ten-not-even-close-review-research-likelihood-children-incarcerated-parents-becoming>
- 82 Vinson, T., Rawsthorne, M., Beavis, A., & Ericson, M., 2015, *Dropping off the edge: persistent communal disadvantage in Australia*. Accessed from <https://dote.org.au>
- 83 Le Grand, J., 2017, 'Public, private or in-between? Staff-led mutuals may be future of aged and disability care,' *The Sydney Morning Herald*, 6 December.

- 84 See for example *Mutuals Taskforce, Our Mutual Friends: Making the case for public service mutuals*, A Mutuals Taskforce Briefing Paper. Accessed from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/61778/Our-Mutual-Friends.pdf and Mutuals Taskforce, *Public Service Mutuals – the next steps*, A Mutuals Taskforce Briefing Paper. Accessed from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/61776/Public-Service-Mutuals-next-steps.pdf
- 85 See additional references contained in KPMG Australia, 2018, *Healthcare Reimagined*. Accessed from: <https://assets.kpmg.com/content/dam/kpmg/au/pdf/2018/healthcare-reimagined-report-2018.pdf>.
- 86 Doyle, C., Lennox, L., and Bell, D., 2013, A systematic review of evidence on the links between patient experience and clinical safety and effectiveness, *BMJ Open*. 3(1).
- 87 See additional references contained in KPMG Australia, 2018, *Patient experience: How do we get to extraordinary?* Accessed from: <https://home.kpmg.com/au/en/home/insights/2017/05/patient-experience-recalibrating-health-care-success.html>
- 88 Innovation and Science Australia., 2017, *Prosperity through Innovation*. Accessed from: <https://www.industry.gov.au/sites/g/files/net3906/1/May%202018/document/pdf/australia-2030-prosperity-through-innovation-full-report.pdf>
- 89 McLean, I., 2013, *Why Australia Prospered: The shifting sources of economic growth*, p.5.
- 90 Burgess, V., 2017, 'Mandarins say it's time for a new royal commission to rethink future and role of the federal public sector', *The Mandarin*, 26 July. Accessed from <https://www.themandarin.com.au/81812-verona-burgess-dennis-richardson-royal-commission-job-of-the-australian-public-service/>
- 91 Burgess, V., 2017, 'Mandarins say it's time for a new royal commission to rethink future and role of the federal public sector'.
- 92 Tiernan, A., 2016, 'Collaboration in Place: The Centrality of Information and Data to Securing Queensland's Future Prosperity.' *Medium*. PolicyInnoHub (blog), 28September. Accessed from <https://medium.com/the-machinery-of-government/collaboration-in-place-59d448c24f6c>.
- 93 Castles, F.G., 1998, *Australian Public Policy and Economic Vulnerability*. Sydney: Allen & Unwin.; Murphy, J., 2019, 'Australia's Distinctive Public Policy Profile: Securing Social Protection amidst Vulnerability.' In Lewis, JM., and Tiernan, A (eds) *The Oxford Handbook of Australian Politics*, Oxford: Oxford University Press.
- 94 Australian Election Study, 2018, Accessed from <http://australianelectionstudy.org/>.
- 95 Edelman Trust Barometer.
- 96 For more on the concept of community capitals, see Deloitte's 2015 report, *The Purpose of Place: Reconsidered* report; Gleeson-White, J (2013) *Six Capitals*. Sydney: Allen & Unwin.
- 97 Petter, A., 2017, 'Engagement May Be a Matter of Survival,' *Times Higher Education*, 21 September. Accessed from <https://www.timeshighereducation.com/opinion/engagement-may-be-matter-survival>.
- 98 Devins, D., Gold, J., Boak, G., Garvey, R. and Willis, P., 2017, *Maximising the Local Impact of Anchor Institutions: A Case Study of Leeds City Region*. Joseph Rowntree Foundation. Accessed from <https://www.jrf.org.uk/report/maximising-local-impact-anchor-institutions-case-study-leeds-city-region>.
- 99 Goddard, J., Coombes, M., Kempton, L. and Vallance, P, 2014, 'Universities as Anchor Institutions in Cities in a Turbulent Funding Environment: Vulnerable Institutions and Vulnerable Places in England.' *Cambridge Journal of Regions, Economy and Society* 7 (2): 307–25. <https://doi.org/10.1093/cjres/rsu004>.
- 100 Birch, E., Perry, DC. and Taylor, HL., 2013, 'Universities as Anchor Institutions.' *Journal of Higher Education Outreach and Engagement*, 17 (3): 7–16 & Devins et al. 2017.
- 101 Etzkowitz, H., 2017, 'Innovation Lodestar: The Entrepreneurial University in a Stellar Knowledge Firmament.' *Technological Forecasting and Social Change* 123 (October): 122–29. <https://doi.org/10.1016/j.techfore.2016.04.026>.
- 102 Goddard et al. 2014, p. 308.
- 103 Goddard et al. 2014.
- 104 Smith, C. and Lovegrove, W., 2007, 'Community Engagement in Developing a New Campus: The Griffith University, Logan Campus Experience.' In Harding, A., Scott, AI, Laske, S. and Burtcher, C. (eds) *Bright Satanic Mills: Universities, Regional Development and the Knowledge Economy*. Hampshire: Ashgate.

- 105 Logan's population is forecast to grow from 313,000 to almost 560,000 by 2040.
- 106 ABS 2033.055.001 Census of Population and Housing: Socio-Economic Indexes for Areas, Australia, 2016, (Queensland Treasury derived). Relative reference.
- 107 ABS 2016 Census QuickStats, 2017.
- 108 Logan is home to people from 217 cultures. Information accessed from: <https://www.logan.qld.gov.au/about-logan/living-in-logan/about-logan-city>
- 109 ABS, Census of Population and Housing, 2016, General Community Profile. Relative reference.
- 110 The Logan City of Choice initiative has been underway since 2013. Information accessed from: <https://www.logan.qld.gov.au/community-support/city-of-choice>
- 111 The city's largest population group is aged between 5 to 9 years (7.8 per cent), followed by children 0 to 4 years (7.6 per cent).
- 112 Smith and Lovegrove 2007, p 183.
- 113 Smith and Lovegrove 2007, P 183.

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Water NSW
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	Health Partners

HomeStart Finance	VICTORIA
HSBC Bank Australia	.au Domain Administration
Hughes Public Relations	Australian Energy Council
Minda Incorporated	Australian Health Policy Collaboration
Morton Phillips	Barwon Water
NCVER	Bendigo Kangan Institute
OZ Minerals	Box Hill Institute
People's Choice Credit Union	British Consulate-General
RAA of SA	Brotherhood of St Laurence
Royal Institution of Australia	Cabrini Health
SA Ambulance Service	Citipower and Powercor Australia
SA Department of the Premier and Cabinet	City of Ballarat
Scotch College Adelaide	City of Wodonga
Seeley International	Clean Energy Council
Shoal Engineering	CoHealth
South Australian Water Corporation	Deakin University
Southern Cross Care	EPA Victoria
St Peters Collegiate Girls School	Epworth HealthCare
Statewide Superannuation Trust	ExxonMobil
TechInSA	Alexander Gosling, AM
Think180	GTA Consultants
	Housing Choices Australia
TASMANIA	Hudson
Aurora Energy	IFM Investors
Hydro Tasmania	Jemena
Tasmanian Department of State Growth	La Trobe University
University of Tasmania	Macquarie Group
	Maribyrnong City Council

Melbourne Convention and Exhibition Centre

Pinnacle Group

Pitcher Partners

Port of Melbourne

Programmed Group

RMIT University

S&P Global Ratings

SED Advisory

Skybus

Software AG

Toyota

Treasury Corporation of Victoria

University of Melbourne

Victoria University

Victorian Agency for Health Information

Victorian Department of Education and Training

Victorian Department of Environment, Land, Water and Planning

Victorian Department of Health and Services

Victorian Department of Premier and Cabinet

Victorian Managed Insurance Authority

Victorian Planning Authority

Walter and Eliza Hall Institute of Medical Research

Western Water

Wilson Transformer Company

WESTERN AUSTRALIA

ATCO

Austal

Australian Gas Infrastructure Group

Bankwest

BP Australia

Brightwater Care Group

Brownes Dairy

CITIC Pacific Mining

City of Fremantle

City of Joondalup

Clifford Chance

Corrs Chambers Westgarth

Curtin University

DuPont

Edith Cowan University

GESB

GRA Partners

Terry Grose

gtmedia

Hall + Prior Aged Care Group

Hays

HopgoodGanim Lawyers

Hudson

INPEX Ichthys

Jackson McDonald

Lifeline WA

MercyCare

METS Ignited Australia

Murdoch University

National Offshore Petroleum Safety and Environmental Management Authority

Newmont Australia

Perpetual

Programmed Group

Resource Capital Funds Management

Sinosteel Australia

South Regional TAFE

South32

Squire Patton Boggs

Synergy

The Bethanie Group

The University of Western Australia

Tianqi Lithium Kwinana Pty Ltd

University of Notre Dame

WA Department of Finance

WA Department of Health

WA Department of Jobs, Tourism, Science and Innovation

WA Department of Planning, Lands and Heritage

WA Department of Primary Industries and Regional Development

WA Department of Treasury

WA Department of Water and Environmental Regulation

WA Super

Water Corporation

Wesfarmers

Western Australian Treasury Corporation

Western Power

Woodside Energy

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