Building Australia's Comparative Advantages

Business Council of Australia

Contents

This Business Council of Australia (BCA) discussion paper, *Building Australia's Comparative Advantages*, builds on the work of the BCA's 2013 *Action Plan for Enduring Prosperity*. It seeks to start a conversation about what it will take to build an innovative economy, foster globally competitive industries and identify the types of jobs that can be created in an advanced economy like Australia.

This discussion paper focuses on actions government can take to foster an innovative and dynamic economy. In future work the Business Council will facilitate further discussion on what businesses can do to come to terms with a global marketplace. We will also examine in detail the challenges that each sector faces to becoming globally competitive.

Building Australia's Comparative Advantages draws on a paper prepared for the BCA by McKinsey & Company titled *Compete to Prosper: Improving Australia's Global Competitiveness*.

Foreword

This paper, *Building Australia's Comparative Advantages*, expands on the Business Council of Australia's 2013 *Action Plan for Enduring Prosperity* by detailing what it will take to build a strong, innovative, globally competitive economy for the future.

It is supported by research undertaken by McKinsey & Company, which provides a base-line perspective on the competitiveness of Australian industry sectors and the specific barriers they face in the context of major global forces of change.

Working in collaboration with McKinsey, the BCA has sought to identify opportunities for economic growth and job creation, and to explain what needs to be done by policymakers and by businesses to seize these opportunities.

Our paper identifies priorities for structural reform to lift the competitiveness of sectors where Australia has a potential global advantage. It emphasises the need for economy-wide reforms to build the innovation infrastructure required to make the Australian economy more agile and build national wealth.

We hope that the work contributes to the federal government's structural reform program, in particular the Prime Minister's National Industry Investment and Competitiveness Agenda, and helps to strengthen policy cohesion and the staging of interconnected reform priorities.

In coming months, the BCA will convene a series of roundtables with stakeholders to discuss the McKinsey research and our policy response. We will also undertake deep, sector-specific analyses and offer guidance to businesses on playing to their comparative advantages.

Catherine Livingstone AO
President
Business Council of Australia

Introduction

Two decades of growth have lifted living standards

Two decades of uninterrupted economic growth have given Australia better living standards – better health outcomes, higher incomes, and growing investment in the environment, education and community services.

The wealth creation of the past two decades is unambiguously good for business and Australia, even though not everyone has benefited equally – an issue that remains a policy priority. This growth provides Australians with good jobs and their families with financial security and control over their lives. It allows Australian businesses to provide growing returns to their shareholders and to invest to create future wealth.

A growing economy and the creation of meaningful and rewarding jobs are what the Business Council of Australia strives for.

Over this period Australia's economy has grown at an average of 3.4 per cent a year. We will need this rate to continue in order to maintain into the next decade the growth in living standards that the Australian community has come to expect. Growth below this rate will lower Australia's ability to reinvest in the economy and in society – the capacity to fund services and new infrastructure will be run down, as will investment in education and skills and the next wave of wealth-creating opportunities.

But a different approach will be needed for the next decade of growth

Delivering growth in the next decade will be a much harder task than it was in the previous two decades. It requires businesses and governments to take a different approach, to take more deliberate and purposeful steps to deal with a changing world.

It is also an urgent task; the forces shaping our world are very different from those that have been at play in the 1990s and 2000s, and they are not benign. Economic and demographic changes around the globe, combined with rapidly advancing technology, are driving profound changes in the economies of all countries.

The pace of technological development and change is accelerating, particularly digital technology.

- This has made almost everything tradeable – goods, services, skills and labour – such that competition is now global and businesses (and increasingly, individuals offering their labour and services) must measure their competitiveness against the world's best, or risk being undercut.
- Technology is enabling entire new business models to be developed that are rapidly evolving and challenging incumbent players and governments' regulatory frameworks. This is most obvious for print media, whose business model has been challenged by online media. Businesses need to be ahead of these technological developments or risk having their business model rapidly undermined.
- The pervasive use of technology is changing the demands on employees – no matter the job or sector. An ability to use technology is now a prerequisite for employment.

Demographic changes in Australia and most other nations are changing patterns of demand, labour force participation and labour mobility:

- Australia's ageing population is changing patterns of work as more and more older people participate in the workforce.
- The fiscal position of all governments will be challenged as age-related expenditure increases and growth in national income slows. An older population may also reduce risk taking and innovation.
- Other countries are also ageing, but are struggling to provide jobs for young people.

Rapid economic growth from emerging economies and increasing trade are changing the nature of competition for all industries as value chains are becoming distributed across the globe:

- Emerging economies – mostly in Asia – will drive global growth in the decades to come, while growth in advanced economies will remain subdued at least for the next several years.

- Very high debt-to-GDP ratios, which are entrenching lower growth in many advanced nations, have placed renewed focus on the importance of structural reforms to boost economic growth potential.
- Urbanisation in developing countries will drive demand for infrastructure, including municipal services (sanitation, urban water and environmental services), health services as well as discretionary items that have not been in high demand in these nations before.
- As emerging economies continue to invest and develop, they will move up the value chain, increasingly competing with advanced economies to offer sophisticated and specialised services.

Australia must be competitive in a global marketplace

In the face of these trends, the next decade of growth must be one where Australia comes to terms with an increasingly dynamic and global marketplace:

- Demand and growth opportunities will increasingly be found in global markets.
- Companies and individuals will compete to provide intermediate goods into global supply chains rather than on the basis of final products. Trade in intermediate goods is now dominating global trade – over 70 per cent of global trade is in intermediate goods and services and in capital goods, by some estimates.[1]
- Labour supply will be global, with tasks performed by the individuals who can do them most competitively, with both tasks and workers moving freely around the world.

The only way to guarantee success in this world is to be competitive at a world standard. Increasingly, all sectors are part of the global marketplace by virtue of the trade in intermediate goods. This is true for all businesses and for all jobs, whether or not they choose to export their products, or individuals offer their labour and services abroad. Business must focus on being globally competitive, even if it is just selling to a domestic market because if it does not then it will soon face global competition. To survive and prosper Australia must meet the test of the global marketplace.

Australia's starting point is not good

Given that the key to growth and jobs is competitiveness, the Business Council commissioned McKinsey & Company to examine the competitive position of Australia's industry sectors.[2] The results indicate that, across a range of measures, most industry sectors are not competitive when compared to the US and that the trend in our relative competitive position has remained the same over the last decade.

The Business Council thinks that this is an opportunity to undertake economy-wide actions to lift innovation and agility. By putting in place deliberate strategies to improve Australia's competitiveness and play to our strengths, and by taking economy-wide actions to foster innovation, Australia can lift its performance to a world standard.

Competitiveness

Competitiveness can be a difficult concept to define and even more difficult to measure.

In this paper we are interested in sector-level measures of competitiveness, such as growth in international market share, labour productivity performance relative to other countries, and relative input costs (as a proxy for the cost of production). No one measure perfectly measures competitiveness; all have their limitations. And they do not provide information about the performance of individual companies – some of which will be competitive and some of which will be uncompetitive, regardless of their sector's performance.

To be competitive Australia must foster innovation through structural reform

To be competitive, Australian companies and their employees must be innovative. By innovation we mean doing something different that creates value and that allows businesses to charge a premium for a better product or to produce an existing product at lower cost.

It is innovation that will allow businesses to access new markets, grow value and tap into global value chains to bring new products to market. It is innovation that will allow existing industries to improve their productivity and strip out costs. Most importantly, it is innovation that will allow Australia to prosper in a global marketplace as a high-wage country with a high standard of living.

Driving a more innovative economy will not happen with a business-as-usual approach. Australia cannot hope to repeat the success of the last two decades by doing more of the same thing.

Several shifts in mindset, policy development and strategy for the approach are needed.

From domestic to global: Businesses and governments need to have a strategy to tap into global growth. Growth opportunities will increasingly be found overseas, and due to Australia's economic position and demographic trends, domestic growth will be limited.

From final products to segments: Moving from offering whole or final products to competing to provide high-value, highly differentiated, niche intermediate goods into global supply chains or in segments of the value chain requires greater specialisation and competitiveness based on innovation.

From qualifications and occupations to tasks and capabilities: Competitiveness is increasingly being defined by the capabilities of the workforce and how effectively these capabilities can be applied to specific jobs and tasks. Individuals need to consider their skills, capabilities and tasks to be as tradeable as commodities and services, and maintain and invest in them.

Businesses and governments need purposeful, well-designed actions to foster innovation and drive competitiveness. Australia has a choice about how it responds to a world where almost everything is tradeable. Governments and businesses can begin the process now of structural reform to build Australia's innovation infrastructure and to lift competitiveness. Or Australia can continue on the same path, which will inevitably see others determining the fate of Australian businesses and jobs.

This discussion paper builds on the work of the *Business Council's Action Plan for Enduring Prosperity*. It seeks to start a conversation about what it will take to build an innovative economy and to foster globally competitive industries. It also seeks to identify the types of jobs that can be created in an advanced economy like Australia.

Comparisons to the US

The US is considered to be the global leader in terms of productivity across most sectors. The Department of the Treasury notes that: 'The US economy has represented the technological and efficiency frontier at the aggregate level since the early stages of the twentieth century and is often referred to as the productivity frontier'.

This competitive position is achieved because of its natural advantages, deep labour and consumer markets and its focus on entrepreneurialism and innovation.

While Australia can and should seek to emulate some of these characteristics, others cannot be copied – such as the scale of the consumer market – and it may not be desirable to copy other characteristics that give the US an empirical competitive edge.

Nonetheless, absent firm-level and product-level comparisons, the US represents something of a global standard for competitiveness and is a useful comparator.

A new approach is needed from governments and businesses

In this paper we propose that governments need to take a more purposeful approach to enabling and fostering the competitiveness of industry sectors by:

- Rethinking the role of government in driving growth, with governments taking a more active role in setting the national direction for economic growth, incentivising and enabling the competitiveness of businesses, and understanding economy-wide elements of competitiveness.
- Using specific national sector strategies to develop and take forward a structural reform agenda that lifts the competitiveness of Australian industries.
- Putting in place the infrastructure that is needed to foster innovation – this is about making sure that the important policy domains that are critical to innovation, such as education, research and development, physical and technological infrastructure, and regulatory settings, are in place and coordinated.

Using McKinsey's results and other data we have analysed the capacity of Australia's industry sectors to grow in a global marketplace, and have analysed their role in the economy. From this we classified Australia's industry sectors into one of four categories, and established broad policy goals that need to be accomplished for each category:

(1) **Sectors that can win at a global scale – Sector policy goal: Maximise growth and achieve a globally significant presence.** This category includes mining and LNG, agriculture, tourism and food manufacturing, some niche highly differentiated manufacturing, and international education.

(2) **Sectors whose global growth outlook is relatively lower but which are critical to the economy – Sector policy goal: Improve productivity performance and strip out unnecessary costs.** These sectors provide critical inputs to trade-exposed sectors and are Australia's biggest employers. They are most likely to be disrupted by the trends outlined above. This category includes utilities, construction, communications, logistics and transport, and retail and wholesale trade.

(3) **Sectors that are less critical and have a lower global growth outlook – Sector policy goal: Remove** all barriers to lowering costs and facilitate a transition to a more competitive business model or structure based on Australia's strengths.

(4) **Sectors that are less critical but nonetheless have a strong growth outlook – Sector policy goal: Ensure that government actions do not unintentionally hinder growth**.

To be clear, this approach is not about subsidising businesses that are uncompetitive or about holding back the impacts of international competition. It is a much more difficult proposition – we are proposing that governments work with business to undertake difficult structural reforms that allow Australia's industry sectors to become or maintain a competitive position in their own right. Australia must identify where it can succeed in a global marketplace and take deliberate steps to secure this success and invest in innovation.

We are not suggesting that this approach should replace vital whole-of-economy reforms, such as tax reform, reform of the federation or reforms to competition policy, which are in line with the proposals in the Business Council's *Action Plan for Enduring Prosperity*.[3] These remain critical and underpin the success of the approach we are proposing, which takes forward these reforms in a more nuanced and purposeful manner.

Implement a sector approach and an associated structural reform agenda

Turning this framework into policy action will require governments to adopt an active approach to driving growth and developing a structural reform agenda. Eight actions are needed:

Rethinking the role of government in driving growth

1. **Rethinking the role of government in driving growth**, moving to a facilitation and coordination role rather than subsidies or direct intervention. Governments should be facilitating competitive industry sectors by taking a sector view of the economy and prioritising all decisions and reforms to promote Australia's comparative advantages. Additionally, governments should be enabling innovation across the whole economy by fostering entrepreneurship and collaboration and thus dynamic growth and facilitating skills and capabilities.

Developing specific national sector strategies

2. **A new approach to national sector strategies** to take a systems approach to prioritising policy action and develop specific sector growth strategies, with urgent action needed for the mining and LNG, agriculture and food production, and energy sectors, which are critical to driving Australia's wealth and enabling growth.

Structural reforms to build the innovation infrastructure

3. **Actions to lift trade and investment** and foster business risk taking to ensure growth sectors can attract the capital for major projects and achieve economies of scale, and so that transitioning sectors can make investments in productivity and restructuring.
4. **Regulation and competition policy for a global market** to lift the performance of all sectors and allow companies to contribute to global supply chains.
5. **Preparing Australians to compete in a global labour market** to ensure our human capital is maintained as a competitive advantage.
6. **Reducing labour market rigidities** to allow transitional sectors to move within the value chain, drive growth in other sectors and enable competition at the task level.
7. **Developing physical infrastructure and population policy** for an innovative economy.
8. **Incentivising innovation** by aligning Australia's research and development efforts with our comparative advantages and fostering cross-sector collaboration.

This is just a start. We know the measures of competitiveness in this paper have limitations, as McKinsey has acknowledged. We are releasing it to start a conversation that will enhance national understanding of our industry competitiveness. We want to work with industry and governments to get a better understanding of what drives competitiveness at the sector level and how it should be measured. The Business Council will facilitate further discussion on what businesses need to do to come to terms with a global marketplace. We will also examine in detail the challenges that each sector faces to becoming globally competitive.

It is a body of work we hope will foster discussion and focus attention on the critical issue of competitiveness. Most of all, we hope it will result in actions that lead to improved standards of living for all Australians.

1. Australia's growth challenge

Australia needs a different approach to driving economic growth and jobs growth.

The nation has enjoyed over 20 years of uninterrupted growth. But the drivers of this growth will not be sustained over the next decade.

The challenge facing Australia's businesses, governments and community is to identify **what will drive growth over the next decade and beyond? And what needs to be done to make growth happen?**

The first decade of growth, in the 1990s, was driven by important structural reforms. In the second decade growth was associated with the rising terms of trade.

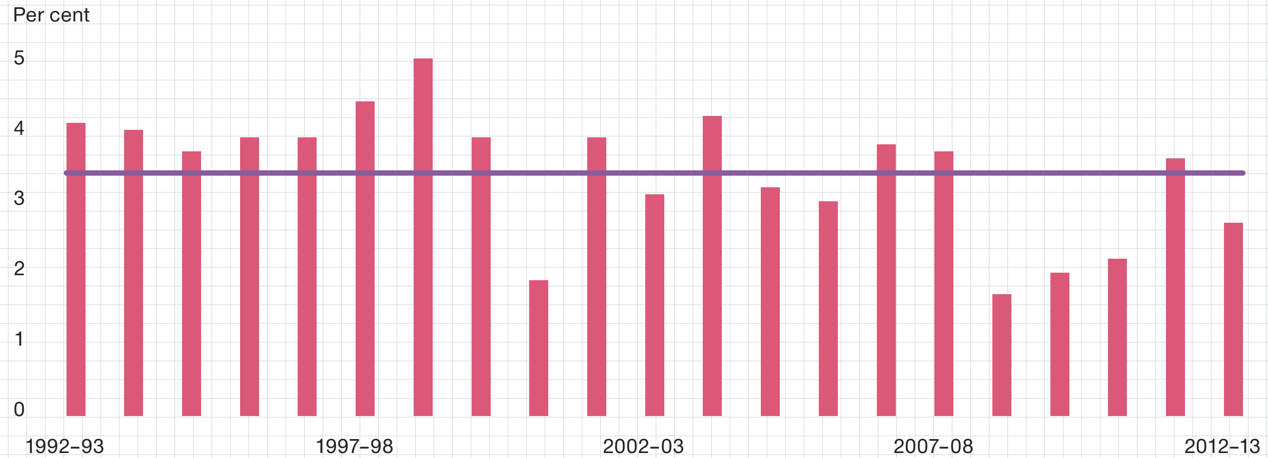
In the years to come, Australia's terms of trade is not expected to maintain the growth in national incomes seen in the past decade. According to a Treasury analysis, the terms of trade is expected to detract from growth in incomes over the next decade.[4] If labour productivity grows at its long-run average, this too will not support the growth in national incomes Australians have come to expect. The ageing population is also expected to be a net detractor as growth in labour force participation slows and possibly declines.[5]

This report seeks to identify how Australia can grow at trend or above. It starts to detail the structural reforms that are required for each sector to prosper as the economy transitions from the mining investment boom.

The drivers of growth over the last 20 years

Over the last 20 years Australia has averaged a growth rate of 3.4 per cent per annum (see Figure 1). This record of growth has provided the basis for rising incomes, better services and improved standards of living.

Figure 1: Annual GDP growth over the last 20 years



Source: ABS, cat. no. 5206.0

Growth in the 1990s was driven by a comprehensive program of structural reforms that commenced in the early 1980s with the floating of the dollar, liberalising banks, labour market reforms, reducing tariffs, granting independence to the Reserve Bank to set interest rates, and major national tax reform. These reforms were also accompanied by comprehensive reforms pursued through National Competition Policy that opened up government monopolies to competition for the first time.

Figure 2 shows the Treasury analysis of the contribution to growth in national income per capita from foreign income, labour utilisation, labour productivity and the terms of trade in the 1990s.[6] According to Treasury, the structural reforms, among others, led to a surge in productivity throughout the 1990s, with labour productivity growing on average 2.1 per cent each year for the decade ending in 2000. This accounted for 96 per cent of average annual income growth in the 1990s.

From about 2004, Australia's record high terms of trade contributed to growth at a time when labour productivity growth declined. The terms of trade were driven by strong demand for resources from Asia, which prompted a massive expansion in Australia's resources sector – with capital investment in the resources sector rising to account for almost 8 per cent of GDP, up from under 2 per cent a decade earlier.[7]

From 2000 to 2013 the rise in the terms of trade lifted growth at the same time when labour productivity growth slowed to a decade average of about 1.4 per cent a year,[8] ensuring the growth in Australia's standards of living continued in line with the previous decade.

Figure 2: Drivers of growth in national income across the decade

Source: Commonwealth Government Budget 2014–15, Paper 1, Statement 4, Chart 2. Note: The base-case assumption for 2013 to 2025 assumes labour productivity grows at its long-run average of around 1.5 per cent a year. The grey area represents the additional labour productivity growth required to achieve long-run average growth in national incomes.

Exhibit 1: Wealth and growth

A focus on international competitiveness – accessing new markets, bringing new products to market and adding new types of value – is the basis of wealth creation and the focus of this paper.

Wealth is critical to sustaining rising standards of living. Without wealth, businesses are less able to reinvest. This in turn limits the ability to return dividends to investors, to take on new employees and to offer rising salaries.

If businesses do not create wealth, the government does not have the revenue to reinvest in critical social services or economic infrastructure. Businesses have less capacity to invest in innovation-enhancing structural reforms.

The community dividend from growth

Growth is not an end in itself. A well-managed, growing economy is a prerequisite for a prosperous society and rising living standards. And overwhelmingly this is what Australia has enjoyed over the last two decades.

The Australian Bureau of Statistics publication *Measures of Australia's Progress* sets this out clearly.

Measures of Australian health have improved. Life expectancy at birth has increased by about 2 years for both men and women over the decade to 2012, and disability-free life expectancy has risen by a similar amount.[9]

The skills and capabilities of Australians continue to rise. The number of people aged 25 to 64 with a vocational or higher education qualification rose from 54 to 67 per cent over the decade to 2012. Year 12 or equivalent completion rates continued to rise. In 2012, 85 per cent of 20 to 24-year-olds had completed Year 12 or a Certificate III.[10]

During the decade 2001–02 to 2011–12, Australia's real net national disposable income grew by over $11,000 to $51,800 per person in 2010–11 dollars.[11]

In the areas where Australia has not made sufficient progress – affordable housing, reducing homelessness and closing the gap in Indigenous disadvantage – economic growth will be crucial to getting better outcomes.

As noted in the introduction, the wealth creation of the last two decades has been unambiguously good for both business and people. It is a trend the Business Council and all governments aspire to continue.

The way forward

In the next decade, lifting and sustaining Australia's economic growth to the 3.4 per cent per annum that the nation has enjoyed over the last 20 years will require extraordinary policy effort. The *2010 Intergenerational Report* (IGR) projects real GDP growth to slow to an average 2.7 per cent a year for the period through to 2050.

Applying the assumed contribution to growth from participation and population used in the IGR, achieving growth of 3.4 per cent would imply labour productivity growth of 2.4 per cent per annum.

Labour productivity growth has been relatively robust over the past couple of years, growing at 2.1 per cent over the year to the March quarter 2014, and part of this improvement is related to capital deepening. But multifactor productivity growth remains poor, declining for seven of the past nine years by an average decline of 0.7 per cent a year. This compares with average growth of 1.3 per cent a year over the nine preceding years.

This discussion paper begins to develop a framework to lift the competitiveness of Australian industry sectors in order to drive growth in wealth, GDP and jobs. We hope this will see Australia growing at 3.4 per cent, rather than 2.7 per cent as projected by the IGR, and that all Australians enjoy another decade of uninterrupted growth.

2. The forces shaping future economic growth

Economic and demographic changes around the globe, combined with rapidly advancing technology, are driving profound changes in the economies of all countries.

In response to these trends Australia must change how it thinks about what competitiveness means and about what needs to be done to become competitive.

This section explores the nature of the key forces shaping the future of economic growth:

- technological change and digitisation
- changing demographics
- rapid economic growth, and more competition from emerging economies
- reconfiguration of value chains and the global labour market.

It then sets out some of the implications of these forces for the nature of competition.

Technological change and digitisation

Trend

Technology is becoming more powerful, developing at an accelerating pace and is penetrating into every aspect of business.

Evidence

Technology access is now almost universal and is increasingly mobile, for example:

- In 2014, with 7.2 billion people on the planet, there are 6.9 billion mobile devices.[12]
- Expenditure on online advertising in Australia grew by 26 per cent to total $3.34 billion over the 2012 calendar year.[13]
- In the last five years, there has been a fivefold increase in the share of adults using the internet via a mobile phone.[14]
- Last year, 78 per cent of consumers researched a product or service on their smartphone.[15]
- In the last 12 months, online retail sales have increased by 6.4 per cent and now represent around 6.6 per cent of traditional retail sales.[16]

Implications

Global competition

The increasing use of technology is allowing businesses to tap into a global labour market. This has allowed businesses in advanced economies to offset high wages, which has improved their competitiveness. However, at the same time technology has changed the competitive rules – some previously less traded sectors are now fully exposed to international competition (retail trade by way of online sellers, for example).

In response, businesses must measure their competitiveness against the world's best; if a business cannot compete in a global market, regardless of whether it exports its goods or services, it risks being undercut by a foreign competitor.

Disrupting business models

Technology is also enabling whole new business models to be developed that are rapidly evolving and challenging incumbent players and governments' regulatory frameworks. This is most obvious for print media, whose business model has been challenged by online media.

For example, the Chinese online payment and lending business called Alipay issues loans to businesses based on web analytics data.[17] This allows Alipay to issue loans quicker than established banks, for example, and to lend to businesses that might otherwise not be able to access capital through traditional channels. This business model is directly threatening the market share of established players, and is operating outside the formal regulated banking sector.

Businesses will need clear strategies to stay ahead of the digital disruption by developing their own innovative business models or rapidly responding to emerging threats; they will need to stay ahead of the technological curve.

The changing nature of work

This trend is placing new demands on employees; in all jobs, across all sectors, an ability to work with technology is now a basic job requirement.

As computing power continues to increase, more and more tasks will be automated. This will allow employees to undertake tasks that are less routine and not readily automated, which will involve complex problem solving, teamwork and interpersonal negotiation skills. These tasks will increase demand for highly capable people regardless of qualification, while providing relatively fewer low-skill jobs.

If Australia's compulsory vocational education and training (VET) and higher education systems are not sufficiently responsive, a skills and capabilities mismatch may be created. That is, we risk not equipping the labour force with the skills required to compete in a global labour market. If this eventuates it will result in higher unemployment than would otherwise be the case and cause businesses to source labour from other countries (by offshoring, automating tasks or importing skilled labour).

Australia's comparative advantages will come from its people and its capacity to equip them with the skills and capabilities to compete in a global marketplace.

Changing demographics

Trend

Australia's population is growing and also ageing.

Australia's population is growing due to both natural increase and net overseas migration rising, and this is expected to continue. Our population is forecast to rise to 38 million by 2050, according to the ABS.[18]

An ageing population is not just an Australian phenomenon; it is occurring around the world. Many western nations are starting to feel the effects of an ageing population, but many developing economies will also experience significant population ageing over the coming decades.

Evidence

Australia's age dependency ratio (the ratio of 15–64-year-olds to those aged 65 and over) was 7.5 in 1971 and is expected to fall to about 3 by 2050, according to the latest ABS projections.[19]

After rising for the last four decades, the participation rate for people over 15 years may already have peaked and is likely to decline around 4 percentage points to 60.6 per cent by 2050, according to the 2010 IGR.[20]

China's age dependency ratio is expected to drop from over 10 in 2010 to about 3 by 2050.[21] Over the same period Australia's will drop from just under 5 to about 3 over the same period. Relative to Australia, China's population will age faster.

Implications

Fiscal challenges

This has well-known implications for all governments' fiscal positions, as outlays related to health, aged care and pensions increase faster than government revenue. For example, research commissioned by the Business Council estimates that without corrective action, combined state and Commonwealth government outlays will exceed revenue by about 5 per cent of GDP by 2050, or around $80 billion.[22]

Slower growth in national income

Exacerbating fiscal challenges is the impact of demographic changes on growth in national income, which will slow. For example, growth in real net national disposable income per capita averaged 2.7 per cent per annum between 1993 and 2012. Over the long term, without policy change,[23] this is expected to fall to an average of just 1.1 per cent per annum as growth rates of labour supply and labour productivity decline, alongside a falling terms of trade. Australia will need to sustain high immigration and encourage higher workforce participation or suffer lower growth in national income.

Changing patterns of participation

Patterns of labour force participation and mobility will also change as a result of an ageing demographic. The economic reality is that as life expectancy increases, people will need to participate in the workforce for longer in order to sustain a high standard of living and sound public finances. This may change the nature of career progression and risks destabilising consequences if young people are not given the skills and opportunities to find meaningful work.

Innovation and productivity

While the ageing of the population has clear implications for workforce participation, it may also impact on risk taking and innovation. A recent speech by the Deputy Governor of the Reserve Bank of Australia, Philip Lowe, noted that 'it is not yet possible to know what the net effect of ageing will be on our attitude to risk and innovation. But if ageing societies do become inherently more risk averse and less supportive of innovation – as I suspect they might – then we are likely to face a greater challenge than we have to date in generating productivity growth'.[24]

Consumption and demand

The demand impact of an ageing population will also be profound, both in Australia and emerging economies.

Expenditure on health care, aged care, and related sectors will increase to cater to the needs of an ageing population. For example, demand for healthcare services is expected to rise from 10 per cent of developed economies' GDP today to 15 per cent by 2030.[25] Similar trends can be expected to play out in developing countries that are also experiencing ageing.

As older people seek to remain in the labour force, education and training services will be sought as they seek to develop or update skills to change job roles. And demand for leisure and wealth management services will increase to cater for an increasing cohort of retired people.[26]

Conversely, in Australia discretionary consumption is expected to grow at a relatively slower pace, which has implications for Australia's tax base and the growth strategies of many retailers, who will need to diversify or look abroad for demand.

Rapid economic growth and more competition from emerging economies

Trend

As numerous reports have shown, emerging economies – mostly in Asia – will drive global growth in the decades to come, while growth in advanced economies will remain subdued at least for the next several years. This a legacy of the global financial crisis and the mass urbanisation of emerging economies.

Evidence

- The International Monetary Fund projects that emerging market and developing economies will grow by an average 5.3 per cent a year to 2019, with China expected to grow at an average annual rate of around 6.8 per cent over this period. For comparison, the euro area is projected to grow at an average annual rate of 1.7 per cent over this period, and the US around 2.7 per cent. Youth unemployment in some advanced economies is now structurally very high – over 50 per cent in Spain and Greece and over 20 per cent in the eurozone – in Australia it has risen to about 13 per cent, with individual regions having a rate of over 20 per cent.
- Asia is set to overtake the combined economic output of Europe and North America within the decade to 2020.[27]
- There will be over 3 billion middle-class consumers in the Asia–Pacific region by 2030, up from around 500 million today.[28]
- By 2050, two-thirds of the world's population will live in a city. Just 600 cities will be responsible for two-thirds of world economic growth by 2025. Of these 600 cities, 200 of them are in China. And these 200 Chinese cities will contribute around 30 per cent of global economic growth.[29]
- In 1980, around 20 per cent of China's population lived in cities, compared with more than 50 per cent today. By comparison, this is well below the around 80 per cent urbanisation rate of the US.[30]

Implications

This rapid economic growth in emerging economies, and the legacy of the global financial crisis, mean that increasingly these economies will be a source of competition for all goods and services from advanced economies, not just a source of cheap labour.

Legacy of the global financial crisis

One of the legacies of the global financial crisis is very high debt-to-GDP ratios, which are entrenching lower growth in many advanced nations. Tenuous fiscal positions of governments across many advanced economies, alongside monetary policy pressed up against the zero lower bound, have placed renewed focus on the importance of structural reforms to boost economic growth. The impact of the global financial crisis and subsequent sluggish recovery on the potential output of countries has been significant – reduced investment, long-term effects of unemployment (particularly youth unemployment) and detachment from the labour force, and productivity impacts such as those arising from reduced risk taking and investments in new technologies. By one estimate, potential output through to 2015 will have fallen more than 30 per cent in Greece, Hungary and Ireland, and more than 22 per cent in Spain.[31]

While Australia has relatively lower youth unemployment, it has remained elevated after increasing during the global financial crisis. If deliberate action is not taken to integrate young people who are neither working nor in study, Australia risks creating the same social and economic problems that are now playing out in some parts of Europe.

More sophisticated competition and greater specialisation

As emerging economies continue to invest and develop, they will move up the value chain. The population of these nations will have a higher per capita income, be better educated, more skilled and healthier. As GE noted in its paper on the future of work, 'millions more people will join the ranks of those who can both tap and contribute to the global stock of knowledge'.[32]

At the same time, economic sophistication will increase, as will the types of goods and services that can be produced and offered.

This will allow emerging economies to compete in a more differentiated space beyond basic manufactured products and begin to offer more sophisticated and specialised services such as education, health services, professional services (accounting and legal services), which to date have not been substantially exposed to trade in advanced economies.

Australia's manufacturers have long experienced competition from emerging countries. This experience will be increasingly felt by the services sectors and more differentiated manufacturing.

Changing demand and urbanisation

The nature of goods demanded by emerging economies will change, partly in response to demographic changes (as noted above), but also due to a rapidly expanding 'middle class' in Asia. According to the McKinsey Global Institute, by 2025, urban consumers are likely to add US$20 trillion each year to the world economy.[33]

This expanding middle class and rapid economic growth are being driven by unprecedented urbanisation. Urbanisation will drive demand for municipal services (sanitation, urban water and environmental services), health services, infrastructure as well as discretionary items that have not been in high demand in these nations before.

Reconfiguration of value chains and the global labour market

All of these trends are serving to reconfigure value chains and to create a global labour market.

The global dispersion of value chains and the globalisation of the labour market are perhaps the most profound implication of the mega trends. It means that competitiveness at the national and firm level will be defined by the skills and capabilities of Australia's people, and how effectively these capabilities can be utilised.

Value chains

Increasing sophistication of emerging economies and technology is allowing value chains to be reconfigured. This is fundamentally changing the nature of competition and work.

Production lines are no longer necessarily co-located with designers or suppliers. Indeed the production line itself may be dispersed over many locations.

For example, recent studies have shown that the amount of intermediate goods sourced from local suppliers by Japanese firms who later sold into foreign markets has decreased over the last decade. Similar results were found for the rest of Asia and Europe. At least for these markets, part of the process of producing the final good or service is taking place across borders.[34]

This presents both a competitive opportunity and threat. The opportunity is the ability to compete to meet demand no matter where this demand is located by contributing to the supply chain or segments of the production process. The threat is that competition can now come from anywhere in the world.

Global labour markets

There is a global marketplace for tasks and jobs.

Better information and communication technology, and the growing sophistication of emerging economies, are enabling competition for tasks, just like production lines and value chains, which will be increasingly dispersed across the globe and may not be co-located with the source of demand or where the final product or service is delivered.

Even small businesses can now purchase a range of tasks and services from around the globe, from lower-skilled services such as laundry and textile manufacturing through to more sophisticated services such as bookkeeping.

Labour is also mobile across the globe. So for those services and tasks that cannot be conducted offshore, advanced countries are importing labour (either by design or in effect). Again this is at every level, from cleaning services through to skilled workers in professional services.

From a competitiveness point of view, capabilities and skills, and how they are formed and regulated within the labour market, will increasingly define national competitiveness.

Having the right skills and capabilities will allow a competitive nation to participate in these widely dispersed value chain segments – regardless of the location of final demand for the good or service that is being produced.

3. Implications for Australia's approach to growth

The major forces outlined in the previous section have major implications for the approach Australia takes to driving growth.

Australia must take a different approach to growth because declining terms of trade, waning growth dividends from structural reforms, and demographic changes will not drive growth into the future.

The approach that Australia takes to growth must seize the opportunities presented by the major forces of globalisation and respond to the threats they entail.

This implies several shifts in mindset, policy development and strategy for the approach Australia takes to growth:

From domestic to global: Demand and growth opportunities will increasingly be found in markets abroad. This is because emerging economies are growing more rapidly than advanced economies, and due to Australia's relatively small economy, which limits organic, domestic growth.

From final products to segments: Companies will compete to provide intermediate goods into global supply chains or in segments of the value chain rather than on the basis of a final product. This requires greater specialisation and competitiveness based on innovation.

From qualifications and occupations to jobs and capabilities: Competitiveness is increasingly being defined by the capabilities of the workforce and how effectively these capabilities can be applied to specific jobs and tasks. Individuals need to consider their skills, capabilities and tasks to be as tradeable as commodities and services, and maintain and invest in them to remain competitive.

From domestic to global demand

Demand from emerging economies, mostly in Asia, is likely to drive growth over the next decade and beyond. The nature of this demand aligns well with Australia's natural endowments and institutional and labour market strengths. The key will be to create competitive sectors in order to tap into this demand.

This is a significant opportunity to drive not only growth but also jobs (see Exhibit 2).

Exhibit 2: The growth opportunity

Dairy

Today's exports are around $2 billion and there are around 12,500 farmers. If Australia were to replicate the success of New Zealand, it could see a $6 billion increase in dairy export revenues as traded milk demand grows by 60 per cent by 2025.

Tourism

Tourism makes a contribution of more than $40 billion to GDP and employment of around 544,000, of which international visitors (exports) are estimated to account for around $27 billion. Tourism Research Australia estimates that this could grow to 656,000 employees by 2029–30.

LNG

McKinsey & Company estimates that bringing the potential LNG projects into development will add 1.5 per cent to GDP and support 150,000 jobs between 2015 and 2025.

Source: BCA analysis; McKinsey & Company, *Compete to Prosper: Improving Australia's Global Competitiveness*, 2014; McKinsey & Company, *Extending the LNG Boom*, 2013; *Tourism Employment in Australia, 2011–12 to 2029–30*, Tourism Research Australia, 2013.

Natural gas

The potential export market for natural gas could grow from 24Mtpa today to 120Mtpa by 2033. In today's prices this represents an opportunity rising from $16 billion to around $80 billion.[35]

This growth will come off the back of surging demand from Asia, rising from 167Mtpa today to 289Mtpa by 2033 (around $190 billion in today's prices).

Agriculture

Demand for agricultural products will grow strongly as a rising middle class in Asia demands more protein and consumes more calories.

India, for example, is projected to import US$27 billion of vegetables, fruit and dairy products by 2050.[36]

Fruit and vegetable consumption in the ASEAN countries is set to double, with imports to increase to US$8 billion. Beef imports are set to double to US$3 billion and dairy products to more than double to US$6 billion.[37]

For Australia, one estimate has agricultural exports rising from $37 billion today to $73 billion per year by 2050 in the base case, or $115 billion under a high-growth scenario. This higher-growth scenario represents the benefits of a structural shift to higher-value products, increased domestic processing and improvements in the agricultural supply chain.[38]

Tourism

In 2013, more than 700,000 Chinese tourists visited Australia, well on the way to the 860,000 annual Chinese visitors Tourism Australia expects to visit in 2020.

This is a fraction of global demand, with Chinese tourists making 97 million overseas trips in 2013, a figure expected to double to 200 million by 2020.

In terms of spending, Chinese tourists spent around $4 billion in Australia last year, compared with total Chinese outbound tourism spending of over $100 billion. Chinese tourist expenditure in Australia could reach $9 billion by 2020 according to Tourism Australia, compared with a tripling of total Chinese tourism spending around the world over this same period.[39]

Services

China is Australia's largest service export market, representing $6.7 billion in 2012–13.

But Australia is capturing only a fraction of the potential market. China's non-travel and transport imports were $94 billion in 2012 and Australia accounted for around $700 million of this demand. China imported around $1 billion worth of government services in 2012, and Australia accounted for around 5 per cent of this demand.[40]

Education

If Australia is able to recapture its peak market share of international education exports, the export value of the sector would rise from $15 billion today to $26 billion by 2020.[41, 42]

Competition in value chains: from products and companies to segments and sectors

To grow in a technology-enabled world, where competition is global, Australia needs to be competitive at a world standard. Businesses and individuals must be sufficiently competitive to export their products or labour – whether they chose to or not – or they risk being undercut by global competition.

To be competitive, Australia must foster innovation. As an advanced, high-wage, high-cost economy, Australia's competitive advantages will come from the innovative use of our natural advantages and our highly capable and educated population. We need to play to our strengths.

Innovation means doing something differently that creates value for which someone is prepared to pay; it allows companies to stay ahead of the competition by charging more for a better product, or by producing the same product more efficiently. Innovation can involve research and development or implementing a new, more efficient business process.

It is innovation that will allow businesses to access new markets and tap into global value chains, to bring new products to market. It is innovation that will allow existing industries to improve their productivity, grow value and strip out costs. Most importantly, it is innovation that will allow Australia to prosper in the global marketplace as a high-wage country with a high standard of living.

Fundamentally, it is innovation that will drive productivity and allow Australian businesses to tap into the strong demand from emerging economies – the only source of strong growth going forward.

What it takes to deliver an innovative economy

Being part of this demand will require a deeper commitment towards, and integration into, the markets of emerging economies than has been envisaged in any government policy papers. Australia must become part of the global value chains that service these economies. This will require competitive firms that are a fully integrated part of the global economy, rather than Australian firms selling into a foreign market.

To foster an innovative and globally competitive economy such as described above, several shifts need to occur in the way businesses approach the global marketplace and how governments go about developing policies and regulating. For example:

- Regulation should not impede established businesses from responding to new competitive threats enabled by technology. Similarly, consumers should not be denied the benefits of cheaper and new products offered by new business models.
- Australia's labour market must be agile and flexible; businesses must be able to structure themselves to respond to technological disruption.
- Australians must be equipped with the skills and capabilities to compete in a technologically enriched global marketplace.
- Universities and research organisations need to have the right incentives to foster long-term, collaborative relationships with businesses.
- Australia's physical and digital infrastructure must enable collaboration and the commercialisation of innovation.
- Businesses must attract investment to keep their processes and capabilities at the cutting edge.

Moving to innovation-led growth requires a different approach by governments and businesses as well as a different mindset.

Competition at the task level: from jobs and awards to skills and capabilities

Competitiveness is increasingly being defined by the capabilities of the workforce and how effectively these capabilities can be applied to specific jobs and tasks.

In all countries, jobs and tasks are moving up the skills chain. They are becoming more complicated, demanding higher technological proficiency and greater interpersonal skills.

This is because technology is enabling routine transactional and production tasks to be automated. This is in addition to the global trade in services that is driving more and more occupations to be offshored. In advanced economies this means relatively more high-capability jobs will be created compared to low-capability jobs.

McKinsey & Company estimates that in the US, from 2001 to 2009, 4.8 million 'interaction' (higher capability) jobs were added, but 2.7 million and 0.7 million jobs were shed whose primary task was 'production' or 'transactional' respectively. Similarly, over the last decade almost all of the growth in jobs is accounted for by higher capability jobs.[43]

In a globally competitive marketplace the key policy challenges are to craft a response to:

- a global shortage of highly capable people at all qualification levels due to the changing nature of work, who need better problem-solving and interpersonal skills
- a possible hollowing out of service sector careers due to increased offshoring and automation
- the need for greater mobility across industry sectors due to rapid adjustments of production and value chains
- continually improving management capability to ensure innovation and productivity growth.

This has implications for all aspects of the compulsory and post-compulsory education system as well as the incentives faced by those choosing to participate in the labour force. These systems need to produce skilled and capable people with the ability to manage their careers in a rapidly changing world and labour market. This entails a shift away for training for a particular job, to a system that equips people with the capabilities and skills required to compete in a technology-enriched, globally traded labour market, regardless of their qualification.

4. Our competitive starting point

Because the world is becoming a vastly more competitive place, at both the sector and capability levels, Australia needs to assess its competitive starting point. This is the basis from which businesses and governments need to develop a strategy to access value chains and tap into the global marketplace.

Australia is a capital-intensive, high-wage economy. Figure 3 provides a snapshot of the economy:

- Australia's economy has been transitioning away from manufacturing to a more resources and services-based economy.
- Our exports primarily come from sectors which exploit our natural advantages in agriculture and resources, and our high-quality university sector.
- Our biggest employers are in services sectors that have historically faced only limited exposure to trade.
- Our biggest contributors to GDP, with the exception of mining, are not high-exporting sectors.
- While they have been in decline, the manufacturing sectors remain important in terms of output and employment.

Figure 3: Snapshot of the Australian economy

Sector	Gross value added		Employment		Exports	
	$b	2008–13 CAGR %	'000	2009–12 CAGR %	$b	2008–13 CAGR %
Agriculture	32	2.9	319	0.5	18	14.8
Mining and extraction	149	6.4	275	12.7	134	12.9
Tourism	33	3.6	520	1.4	33	3.1
Food and beverage manufacturing	24	0.1	219	–1.0	19	2.8
Basic manufacturing	21	–4.8	280	–3.7	6	0.0
Advanced manufacturing	22	0.9	210	–0.3	16	–1.5
Commodities processing	36	–1.5	229	–1.1	46	–0.9
Construction	116	3.7	1,038	2.0	<1	7.1
Utilities	38	1.4	157	2.7	<1	N/A
Logistics	66	2.2	530	0.7	1	–2.5
Finance	121	1.7	420	1.7	3	0.0
Real estate services	39	3.6	196	1.9	<1	N/A
Professional services	143	3.3	1,255	7.4	14	0.9
Communications	41	0.8	194	0.4	1	0.9
Wholesale and retail trade	127	2.2	1,552	2.0	<1	N/A
Domestic services	58	–0.1	1,178	4.2	<1	4.6
Public services	241	3.2	3,037	2.8	1	1.3

Top Middle Bottom

Source: McKinsey & Company

This is Australia's starting point. Any approach to growth needs to build on Australia's competitive strengths so that our biggest employers can transition successfully to a world where almost every job and every service and product will be tradeable.

A successful transition will ensure that those sectors that contribute the most to our economy move to a business structure that ensures they continue to do so – albeit in a different manner. It will seek to grow Australia's export performance across all sectors.

Australia's competitive position

To achieve this transition, Australia needs to understand its current competitive position.

The Business Council commissioned McKinsey & Company to examine Australia's competitive position. The results show that, across a range of indicators, most industry sectors are not competitive when compared to the US and that the trend in our relative competitive position has not improved over most of the last decade.

This illustrates the size of the opportunity open to Australia if structural adjustments are made that improve competitiveness. The results also show that Australia's most competitive sectors align well with growth opportunities in emerging economies.

Exhibit 3: Competitiveness: What is it and how is it measured?

Competitiveness can be a difficult concept to define and even more difficult to measure.

At the sector level competitiveness is taken to refer to *the ability of a sector's firms to produce goods and services that meet the test of international markets*. For the traded sectors this means being able to produce and sell products into international markets at competitive prices. For the non-traded sector, this means having the ability to produce and sell goods as efficiently and effectively as those in leading nations.

At the national level, being competitive means having competitive firms while maintaining or expanding the real incomes and wellbeing of its people.

Competitiveness is a relative concept, and many things can impact on competitive performance, including currency fluctuations, which make one country's goods and services relatively more or less competitive as the relative value of a local currency increases or decreases. Tariffs, subsidies and other trade barriers can also increase or decrease a country's competitiveness.

However, over the long term competitiveness is driven by productivity improvements – that is, the ability of a firm, sector or country to produce more or better goods and services for a given quantity or resources.

In this paper we are interested in sector-level measures of competitiveness, such as growth in international market share, labour productivity performance relative to other countries, and relative input costs (as a proxy for the cost of production). No one measure perfectly measures competitiveness; all have their limitations. And they do not provide information about the performance of individual companies – some of which will be competitive and some of which will be uncompetitive, regardless of their sector's performance.

However, taken together, we believe these measures of sector competitiveness provide a useful picture of the competitiveness upon which a policy and business response can start to be crafted.

National-level competitiveness

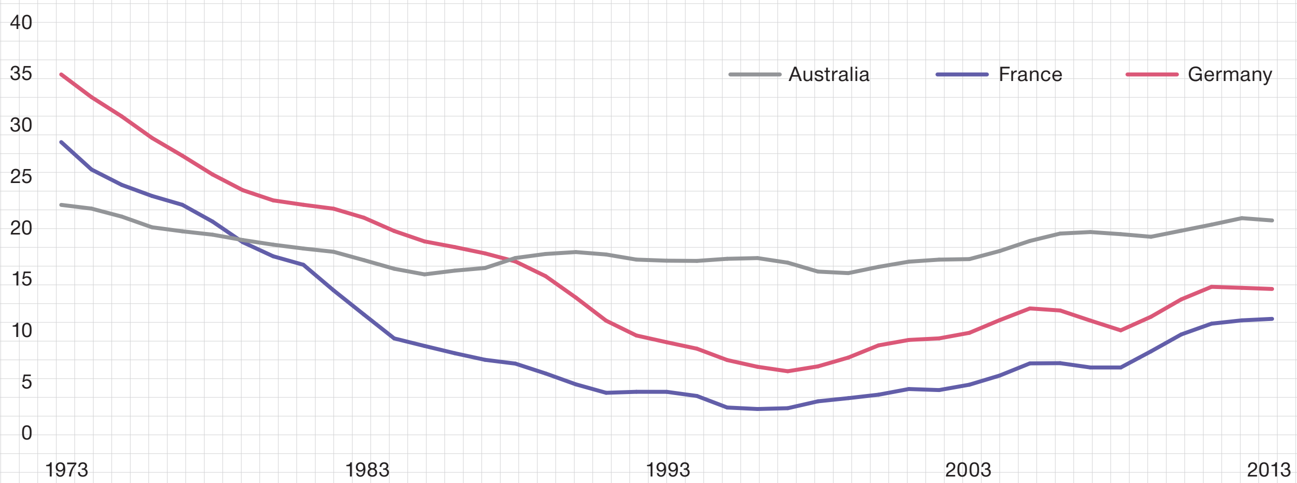
The last decade has seen Australia's international economic competitiveness decline across a range of measures:[44]

- The World Economic Forum placed Australia 21st out of 148 countries on its Global Competitiveness Index, down from 15th place a few years ago.
- The World Economic Forum identified labour regulation, government bureaucracy and tax rates as the most problematic factors for doing business in Australia.
- The World Economic Forum placed Australia 23rd out of 138 countries on its Enabling Trade Index 2014, down from 15th place in 2010.
- A study of manufacturing cost competitiveness across 25 countries by the Boston Consulting Group found that Australia had the highest absolute costs and the largest decline in competitiveness (equal to Brazil) over the last decade.
- Australia's retail and wholesale sectors are 20 per cent less productive than the average productivity of their global competitors, according to a study by Deloitte.

Additionally, the Productivity Commission reported that Australia's productivity growth between 2007 and 2010 was lower than eight peers – France, Germany, Sweden, Ireland, the UK, the US, Singapore and South Korea.[45] Alongside this low rate of productivity growth, the high Australian dollar has put further pressure on trade-exposed sectors.

Compared to the US (see Figure 4), Australia's relative productivity performance narrowed and has been relatively steady since the late 1990s, and this is after a long period where Australia was closing the productivity gap between the US.

Figure 4: Productivity gap between the US and other countries



Source: The Conference Board Total Economy Database, January 2014. Note: Three-year moving averages based on GDP per hour, in 2013 EKS$. A value closer to zero represents productivity closer to that of the US.

Exhibit 4: Comparisons to the US

The US is considered to be the global leader in terms of productivity across most sectors. The Department of the Treasury notes that: 'The US economy has represented the technological and efficiency frontier at the aggregate level since the early stages of the twentieth century and is often referred to as the productivity frontier'.

This competitive position is achieved because of its natural advantages, deep labour and consumer markets, and its focus on entrepreneurialism and innovation.

While Australia can and should seek to emulate some of these characteristics, others cannot be copied – such as the scale of the consumer market – and it is not desirable to copy other characteristics that give the US an empirical competitive edge.

Nonetheless, lacking firm-level and product-level comparisons, the US represents something of a global standard for competitiveness and is a useful comparator.

Source: BCA analysis; A. Young, J. Wilkie, R. Ewing & J. Rahman, 'International Comparison of Industry Productivity', *Treasury Economic Roundup*, Issue 3, 2008.

Sector-level competitiveness

At the sector level there is a much more complicated story.

McKinsey & Company, in research commissioned by the Business Council, found that Australia's overall competitiveness compared to the US was weak and has not improved substantially since 2005.

McKinsey measured competitiveness by way of three measures (in addition to output measures discussed in the next section) to form a relative competitiveness score (see Figure 5). These three measures are (1) sector gross value added per hour worked relative to the US, (2) a measure of cost efficiency, total costs per hour worked relative to the US and (3) the ratio of relative labour productivity to relative input costs.

Based on McKinsey's relative competitiveness score, only 3 of 12 sectors were competitive – agriculture,[46] mining (including LNG), and finance.[47]

These measures seek to identify the efficiency by which a sector produces outputs, and any cost advantages or disadvantages due to the costs of inputs from other sectors.

The measures of competitiveness are, by necessity, average measures – within any sector there is likely to be competitive and uncompetitive firms. What the measures do tell us is a sector's average performance against the US. It allows the identification of relative strengths and weaknesses that might be further investigated.

The measures of competitiveness have limitations, as McKinsey has acknowledged. Ideally, multifactor productivity would be compared between countries to determine sector competitiveness; however, data are not available to enable this type of comparison.

McKinsey's findings and the trends, however, are consistent with the trends in relative aggregate labour productivity (Figure 4) and what we know about Australian sector productivity and Australia's comparative advantages.

As McKinsey notes in its paper, to get a full picture of competitiveness, the cost of delivering the final product to consumers needs to be understood. This is something we want to work on with industry and governments in order to understand what drives competitiveness at the sector level. The Business Council will facilitate further discussions on this issue.

Figure 5: McKinsey & Company assessment of sector competitiveness

<table>
<tr><th></th><th colspan="2">Export market share</th><th colspan="2">Relative competitiveness score</th><th colspan="2">Relative input cost efficiency</th><th colspan="2">Relative labour productivity</th></tr>
<tr><th>Sector</th><th>%</th><th>2005–10 %</th><th>Index</th><th>2005–12 %</th><th>Index</th><th>2005–12 %</th><th>Index</th><th>2005–12 %</th></tr>
<tr><td>Agriculture</td><td>3.2</td><td>−0.4</td><td>0.8</td><td>0.0</td><td>0.0</td><td>−0.6</td><td>0.9</td><td>0.8</td></tr>
<tr><td>Mining and extraction</td><td>11.4</td><td>5.4</td><td>0.2</td><td>0.1</td><td>−0.2</td><td>0.1</td><td>0.4</td><td>0.2</td></tr>
<tr><td>Tourism</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td>Food and beverage manufacturing</td><td>2.0</td><td>−0.7</td><td rowspan="4">−0.1</td><td rowspan="4">−0.0</td><td rowspan="4">0.1</td><td rowspan="4">−0.3</td><td rowspan="4">−0.2</td><td rowspan="4">0.1</td></tr>
<tr><td>Basic manufacturing</td><td>0.3</td><td>−0.1</td></tr>
<tr><td>Advanced manufacturing</td><td>0.2</td><td>−0.0</td></tr>
<tr><td>Commodities processing</td><td>1.1</td><td>0.1</td></tr>
<tr><td>Construction</td><td>0.1</td><td>−0.1</td><td>−0.4</td><td>−0.1</td><td>−0.6</td><td>−0.3</td><td>0.4</td><td>0.5</td></tr>
<tr><td>Utilities</td><td>1.2</td><td>0.3</td><td>−0.5</td><td>−0.5</td><td>0.1</td><td>−0.6</td><td>−0.5</td><td>−0.1</td></tr>
<tr><td>Logistics</td><td>0.6</td><td>−0.5</td><td>−0.2</td><td>0.0</td><td>−0.2</td><td>−0.2</td><td>−0.0</td><td>0.2</td></tr>
<tr><td>Finance*</td><td>0.3</td><td>−0.3</td><td>0.1</td><td>0.1</td><td>−0.1</td><td>−0.3</td><td>0.2</td><td>0.4</td></tr>
<tr><td>Real estate services</td><td>N/A</td><td>N/A</td><td>−0.4</td><td>−0.2</td><td>−0.2</td><td>−0.4</td><td>−0.2</td><td>0.1</td></tr>
<tr><td>Professional services</td><td>1.8</td><td>0.3</td><td>−0.4</td><td>−0.0</td><td>−0.3</td><td>−0.2</td><td>−0.2</td><td>0.2</td></tr>
<tr><td>Communications</td><td>1.1</td><td>0.1</td><td>−0.2</td><td>0.0</td><td>−0.2</td><td>−0.2</td><td>−0.0</td><td>0.2</td></tr>
<tr><td>Wholesale and retail trade</td><td>N/A</td><td>N/A</td><td>−0.1</td><td>−0.0</td><td>−0.2</td><td>−0.5</td><td>0.0</td><td>0.4</td></tr>
<tr><td>Domestic services</td><td>2.3</td><td>0.4</td><td>−0.3</td><td>−0.1</td><td>−0.4</td><td>−0.4</td><td>0.1</td><td>0.4</td></tr>
<tr><td>Public services</td><td>0.5</td><td>−0.0</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
</table>

*Traditional productivity comparisons in the finance sector are difficult due to complexities measuring sector gross value added.

Top | Middle | Bottom
To Australia's advantage | Neutral | To Australia's disadvantage

Source: McKinsey & Company. Note: Relative competitiveness score equals gross value added divided by total input costs. Relative labour productivity is equal to gross value added divided by industry hours worked. Relative input cost efficiency is industry hours worked divided by total input costs.

Outcome measures

Outcome measures of competitiveness reveal another view of Australia's competitiveness. Examining input costs and relative labour productivity reveals how competitively a sector can produce a good or service. Outcome measures such as changes in export market share reveal Australia's success in responding to global market demand and accessing new markets. This measure can reveal where Australia's competitiveness is being held back by trade barriers significantly, for example, or where Australia is relatively more or less responsive to changes in demand.

On this measure Australia has performed well in responding to strong growth in demand for resources, with market share growing significantly between 2005 and 2010. It also shows that our professional services sector, which includes international education, has been responsive.

But this measure reveals that the agriculture sector has lost market share, which is contrary to relative competitiveness when measured by labour productivity and input costs.

The findings of McKinsey's work, summarised by the relative competitiveness score, show that Australia is competitive in agriculture, mining (including natural gas), tourism and international education. It is potentially competitive in niche manufacturing and food and beverage processing. Australia's enabling sectors, which are key inputs to trade-exposed sectors – finance, utilities, professional services, construction, logistics and real estate services – are less competitive relative to the US. Those sectors that until now had been largely shielded from international competition – retail and wholesale trade, communications, and local and public services – are also less competitive than the US.

Competitiveness at the job and capability level

Australia's ability to develop, attract and retain highly capable workers in the labour force is mixed.

In terms of educational attainment, Australia's performance is declining relative to many other nations:

- Australia's international ranking and average scores in reading, mathematical and scientific literacy fell between 2000 and 2012 (as assessed in the OECD's Programme for International Student Assessment, known as PISA):
  - » in literacy there were 3 countries ranked higher than Australia; there are now 12 countries ranked higher
  - » in mathematical literacy, there were 4 countries ranked higher than Australia in 2000; there are now 18 countries ranked higher
  - » in scientific literacy, there were 6 countries ranked higher than Australia; there are now 15 countries ranked higher.
- Australia's educational and training institutions perform well by world standards.
- Australian universities achieve high international rankings, with a high proportion in the top 100, but none in the top 20.
- Australia's VET system is recognised as one of the most innovative, but its operation and outcomes need to be improved.

In terms of attracting and retaining skilled workers, Australia performs well:

- Australia's skilled migration program was responsive to the needs of the resources investment boom, with 414,572 skilled migration visas issued between 2005 and 2013.[48]
- Australian cities routinely rank within the top 10 or 20 most desirable places to live in the world.
- International education exports also indicate that Australia is a destination of choice. International education is Australia's largest service export and has the highest ratio of overseas to domestic students.

However, youth unemployment increased through the global financial crisis and remains elevated. The latest ABS Labour Force data estimate the youth unemployment rate (for those aged 15 to 24 years) has been trending upwards for the past few years and increased to 13.5 per cent in June 2014. This compares with an unemployment rate of 6.0 per cent across the broader economy.

While Australia has performed relatively well in terms of human capital compared to many other advanced economies, our trends on most fronts are in the wrong direction.

5. Barriers to success

This paper identifies seven key barriers to lifting Australia's competitiveness. These barriers were identified through extensive discussion between BCA members and McKinsey & Company.

Scale

Australia is a small economy by world standards and this can present a barrier to growth and expansion in global markets.

For those that are highly traded and capital intensive, reaching global scale is essential to remain competitive. Oil refining is a good example. McKinsey notes that 'output for each of Australia's oil refineries (prior to recent closures) ranged from 75,000 to 138,000 barrels per day (bpd). Modern plants produce at least 200,000 bpd, and the world's largest refinery, in India, produces over 1.2 million bpd – roughly 50 per cent more than Australia's total production. For other sectors that are less traded, the domestic market can be relatively concentrated, and less competitive, reducing incentives to innovate and improve productivity'.

Access to talent

BCA members report that access to skilled, highly capable people at all levels of qualification is a barrier to competitiveness now, and is set to intensify into the future. As technology becomes pervasive and enables a global labour market, and emerging economies move up the value chain, skills and capability shortages will be felt across all economies and all sectors of the economy.

Additionally, labour will be increasingly mobile; the best people will go to the best jobs wherever they are in the world. Less complex tasks will go offshore, be automated, or filled by workers from abroad willing to work in positions of lower status and pay.

Australia's immigration settings must be competitive in this global labour market to attract and retain the right people for the right job. This is particularly important for some companies and sectors that have high demand for skills that are in short supply in Australia, such as IT professionals.

Lack of global orientation and technological capability

Our boards and companies need to think globally and develop purposeful strategies to go after the pockets of high demand wherever in the world they are located. These strategies need to harness, or at a minimum, acknowledge the huge technological changes that are impacting on business models around the world. This will require a global mindset and technologically savvy boards.

As McKinsey & Company notes, to capture the export opportunity presented by increasing global trade flows will require a change in mindset. Firms that tailor their products for the domestic market (and then export any surplus), or that focus on competing across the value chain, will need to change their orientation from domestic needs to focus on the needs of export markets and the opportunity to specialise as participants in a global value chain.

Access to growth capital

Australia is a country that is reliant on foreign capital, and our strongest sectors in mining and agriculture, for example, are especially reliant on foreign investment. To prosper, Australia must excel at attracting and retaining foreign investment.

Australia also scores poorly in terms of venture capital. This inhibits start-up companies and small to medium enterprises trying to scale. Australia ranks 33rd on the availability of venture capital and 20th on the availability of credit overall.[49] Even leaders of large corporations with access to capital feel they and their boards are constrained by the short-term expectations of capital markets.

Collaboration

Collaboration is essential to innovation because it allows individuals and firms to share ideas and deliver products that would not be possible in isolation. By collaboration we mean efforts between businesses, researchers and academics to support the development of new products and processes, and collaboration between businesses in order to access new markets or provide products that they cannot deliver as separate entities.

Australia's performance in business collaboration – with other businesses, researchers and international partners – is lower than many countries, according to research undertaken by Deloitte Access Economics, commissioned by the Business Council.

The interface between the research and education sectors is a particular problem; on the World Economic Forum Competitiveness Index, Australia ranks 15th on collaboration, compared with 3rd for the US and 5th for the UK.

Labour market rigidities

Australia's workplace relations system includes some provisions that are counter to its economic interests, and may become more so in the future if they remain in place.

This impacts on the various sectors differently:

- The capital-intensive sectors, such as mining and energy, struggle to strike workplace agreements that allow them to control cost and timing risk for the full duration of major capital projects. This has implications for the certainty of project finance.
- Sectors that face disruptive trends, such as retail trading, are constrained from shifting work practices that are restricting them from an innovative response.
- Sectors that are struggling to compete in a global marketplace are constrained in restructuring their operations to lower costs or to move to a new value proposition.
- Many companies in various sectors find that navigating the complexity of the workplace relations system is resource intensive – more so than in comparable countries.

As the job mix changes in response to a shifting industrial mix, new technologies and offshoring, many worry that a lack of flexibility in working arrangements could prevent Australia from creating as many new jobs as would otherwise be the case.

Regulation

Perhaps the most common impediment is the need for regulation that allows Australia to continue to grow and prosper in a more globally competitive world. The focus on domestic outcomes without an appreciation of the impact on international competitiveness may mean regulatory decisions do not consider the full national interest. The slow speed of approvals and inconsistency between jurisdictions is also commonly cited as a barrier. Overall, Australia ranks 128th on regulatory burden, compared with 13th for New Zealand.[50]

6. Framework for growth

Dynamic structural change drives the need for sectoral reform

Economies are constantly transforming over time. Dynamic structural change is a term used to describe how an economy's markets, industries and businesses alter in response to new opportunities and threats. New technologies, digitisation, globalisation and changing consumer tastes all drive changes in markets and industry structure and in business models within economies. These shifts are marked by a reallocation of labour and capital to perform new production tasks and also changes in those production processes.

According to a report by the Centre for Independent Economics,[51] the three key ways that dynamic structural change occurs are:

- Structure of firms – where firms adopt new production practices or move into new products in response to competitive forces.
- Structure of industries – where competitive pressures favour some firm structures over others, which can lead to different levels of domestic industry concentration but also increasing global integration.
- Structure of the economy – where the sectoral make-up of the economy changes as sectors that have a comparative advantage are better able to perform in global markets in response to changes in global and domestic demand, the inherent quality and capabilities of a country's resources, and the cost of business inputs.

In this context the Business Council thinks that a new sector-level framework needs to be put in place to allow governments and businesses to grasp the opportunities presented by a changing world:

- to tap into demand in emerging economies

Figure 6: Phased implementation of a new growth framework

Source: BCA

- to increase the global competitiveness of our companies and sectors so that they can plug into global value chains
- to ensure Australians are equipped with the capabilities and skills to compete in a global labour market.

The key elements of this framework are a sector approach to developing a structural reform agenda.

What is a sector approach to lifting competitiveness?

A sector-based approach to lifting competitiveness entails a deep understanding of the competitive outlook faced by each sector, a clear understanding of each sector's role in the economy, and a tailored strategy to facilitate the competitiveness of each sector.

It entails prioritising government policy choices and design across the general reform agenda and also putting in place specific actions to foster growth in priority sectors. For example, for each sector, governments should be:

- putting in place deliberate policies to maximise the growth of industries in which Australia currently possesses an advantage or, based on a reasonable assessment, could have a competitive advantage and for which there is strong demand growth
- for those industry sectors that are currently not globally competitive, removing all barriers to lowering costs and transitioning to a more competitive business model or structure
- improving the productivity performance of those sectors that provide critical inputs to trade-exposed sectors and that are Australia's biggest employers and are most likely to be disrupted by the trends outlined in the previous sections.

Why a sector approach is needed

A sector approach is needed because no industry sector exists in isolation of public policy. Every company's position relative to its global competitors is impacted upon – positively and negatively – by various government policies. What is needed is for governments to undertake the often difficult structural reforms that will allow Australia's industry sectors to be competitive at a global standard.

A sector view of competitiveness is important because:

- each sector has a different competitive outlook and different growth prospects
- each sector needs its own tailored set of actions to lift performance
- these actions need to be coordinated across players within the sectors or across sectors
- governments need a sector approach to coordinate their actions across the relevant policy domains; there is no point improving the regulation of the mining industry, for example, if the skills it needs are unavailable.

Implementation: Develop a sector view of opportunities and capacity to win

Such a framework needs to be based on an understanding of the role and contribution each sector makes to the Australian economy and society (as outlined in Figure 3), as well as the potential each sector has in terms of growth based on demand (as outlined in the previous section) and competitiveness (as outlined in Figure 5).

Accordingly, the first step in implementing this approach is to develop an economy-wide understanding of Australia's competitive strengths and weaknesses and to identify where growth opportunities exist. This is the work that we have started to do using McKinsey & Company analysis, and has also been tackled by others, including Deloitte, in their report *Positioning for Prosperity: Catching the Next Wave*.

The economy-wide understanding needs to encompass:

- the global growth outlook for the key goods and services produced by each sector
- the current competitive position and performance relative to the performance of sectors in key competitor nations
- the relationship between sectors within the Australian economy to determine critical dependencies
- the contribution each sector makes to employment
- each sector's level of trade exposure and contribution to exports.

Using McKinsey's results and other data, we have analysed the capacity of Australia's industry sectors to grow in a global marketplace (**capacity to win**), and have analysed their role in the economy (**criticality**).

- **Capacity to win:** A sector has a high capacity to win if it is competitive or could be competitive, or will be exposed to strong demand growth, and will be in a good position to meet this demand (i.e. it will not be undercut by more responsive suppliers in other countries).
- **Criticality:** A sector is highly critical if it is too important to lose, usually because it is a major employer, or exporter, or provides a critical input into other sectors, and it encompasses risk to jobs, the economy and standards of living should it be severely disrupted in an unanticipated way.

From this we classified Australia's industry sectors into one of four categories, and established broad policy goals that need to be accomplished for each category:

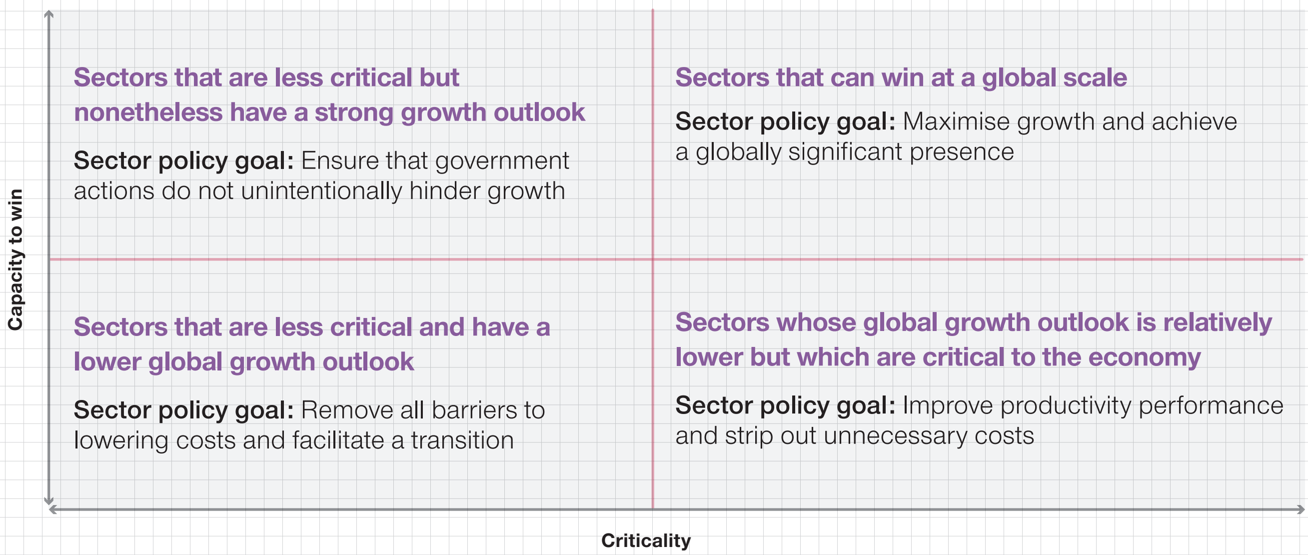
(1) **Sectors that can win at a global scale – Sector policy goal: maximise growth and achieve a globally significant presence.** This category includes mining and LNG, agriculture, tourism and food manufacturing, some niche highly differentiated manufacturing, and international education.

(2) **Sectors whose global growth outlook is relatively lower but which are critical to the economy – Sector policy goal: Improve productivity performance and strip out unnecessary costs.** These sectors provide critical inputs to trade-exposed sectors and are Australia's biggest employers. They are most likely to be disrupted by the trends outlined above. This category includes utilities, construction, communications, logistics and transport, and retail and wholesale trade.

(3) **Sectors that are less critical and have a lower global growth outlook – Sector policy goal: Remove all barriers to lowering costs and facilitate a transition** to a more competitive business model or structure based on Australia's strengths

(4) **Sectors that are less critical but nonetheless have a strong growth outlook – Sector policy goal: Ensure that government actions do not unintentionally hinder growth.**

Figure 7: A framework for a competitive industry policy

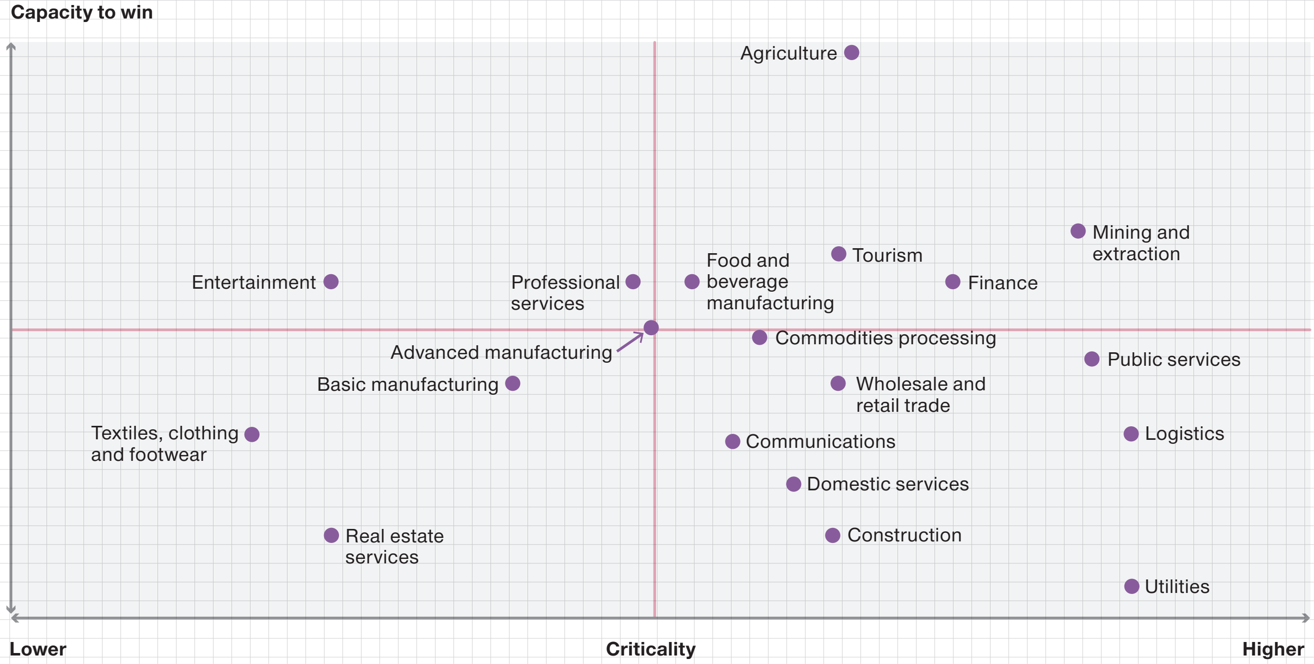


Source: BCA

Figure 8 presents a stylised view of each sector's capacity to win and its 'criticality', based on McKinsey's analysis of current competitiveness, ABS data on industry gross value added, employment and exports, and BCA analysis on likely future demand and strategic importance.

Figure 8 is a stylised example only, used to illustrate the process by which a sector understanding of the economy could be developed.

Figure 8: A stylised framework for a competitive industry policy



Source: BCA

Implementation: Prioritise decisions based on a sector view of the economy

The purpose of an economy-wide analysis of competitive strengths and weaknesses is to enable choices, often difficult ones. It will allow governments and business to understand each sector's position and to set strategic goals and prioritise policy action based on this information.

It implies an active role for governments to drive growth in particular sectors based on their outlook in a competitive world. For business it implies the need to continue to take a long-term strong approach to growth, rather than relying on opportunistic growth.

Achieve a global presence: The goal for sectors in the top right quadrant of Figure 7 should be to maximise global growth. McKinsey & Company called these sectors the 'Advantaged Performers' and 'Latent Potentials'. These are the sectors that are critical to generating Australia's wealth, and they should have a strategy to achieve or maintain a globally significant presence.

Lift performance: The sectors in the bottom right quadrant are Australia's critical enabling sectors and major employers ('Enabling Industries' and the 'Domestic Core' in McKinsey's paper). It is vital that these sectors lift their competitiveness. They are at risk from the trend to increased tradeability and digital disruption. While these sectors would generally not be considered to be trade exposed (with retail being the notable exception), the only way jobs and business in these sectors can be considered secure is if they are competitive at a global level. They should have a strategy to lift productivity and strip out unnecessary costs based on regulatory reform to access economies of scale, remove barriers to competition and lift productivity-enhancing investment.

Transition: The sectors in the bottom left quadrant need to consider transitioning to another part of the value chain if they are not already doing so. They face significant hurdles to maintaining a competitive position in Australia's high-wage, high-cost economy. The aim of their strategies should be to differentiate their product offerings, outsource or offshore tasks that are not competitive in Australia, and invest in new technologies and research to drive innovation. Part of their strategy needs to involve identifying and developing markets for niche products abroad.

Way forward

This framework is not about picking winners, subsidising uncompetitive industries or providing industry assistance to individual firms. It is about recognising where Australia has, or could have, a competitive advantage and taking deliberate steps to realising that competitive advantage.

From government it will require purposeful policy design to facilitate globally significant sectors, improve the competitive performance of our biggest domestic and enabling sectors, and to assist industries to transition to a competitive position. Purposeful policy design needs a systemic view of the skills, regulatory settings, human capital needs, infrastructure requirements, trade policy and investment settings that are needed to achieve an outcome. Purposeful policy design also needs a coordinated approach to implementing reforms across these policy domains and having a view as to the expected outcome.

Turning this framework into policy action will require governments to adopt an active approach to driving growth and developing a structural reform agenda. Eight actions are needed:

Rethinking the role of government in driving growth

1. **Rethinking the role of government in driving growth,** moving to a facilitation and coordination role rather than subsidies or direct intervention. Governments should be facilitating competitive industry sectors by taking a sector view of the economy and prioritising all decisions and reforms to promote Australia's comparative advantages. Additionally, governments should be enabling innovation across the whole economy by fostering entrepreneurship and collaboration and thus dynamic growth and facilitating skills and capabilities.

Developing specific national sector strategies

2. **A new approach to national sector strategies** to take a systems approach to prioritising policy action, with urgent action needed for the mining and LNG, agriculture and food production, and energy sectors, which are critical to driving Australia's wealth and enabling growth.

Structural reforms to build the innovation infrastructure

3. **Actions to lift trade and investment** and foster business risk taking to ensure growth sectors can attract the capital for major projects and achieve economies of scale, and so that transitioning sectors can make investments in productivity and restructuring.
4. **Regulation and competition policy for a global market** to lift the performance of all sectors and allow companies to contribute to global supply chains.
5. **Preparing Australians to compete in a global labour market** to ensure our human capital is maintained as a competitive advantage.
6. **Reducing labour market rigidities** to allow transitional sectors to move within the value chain, drive growth in other sectors and enable competition at the task level.
7. **Developing physical infrastructure and population policy** for an innovative economy.
8. **Incentivising innovation** by aligning Australia's research and development efforts with our comparative advantages and fostering cross-sector collaboration.

Sector approaches in other countries

Other countries are increasingly adopting strategic frameworks to lift competitiveness and drive growth, and some have been doing so for a long period of time. Canada, the UK, US, China, Singapore, New Zealand, and Hong Kong have all taken a strategic, sector-based approach.

United States

The resurgence in manufacturing in the US has been driven, in part, by the supply of a low-cost energy source – shale gas – readily available through very purposeful action by government.

In 2011 President Obama launched the Advanced Manufacturing Partnership, a national effort bringing together industry, universities, and the federal government to invest in the emerging technologies and skills that will support a dynamic domestic advanced manufacturing sector that creates high-quality jobs and encourages companies to invest in the US.

This in turn led to the creation of a National Strategic Plan for Advanced Manufacturing.

South Korea

In the 1960s the South Korean economy was dominated by agriculture and mining. They focused on creating a business environment, and adopting a free trade regime, which made inputs used in export production considerably cheaper.

The decision to adopt a more outward-looking and export-oriented approach and to promote infant industries has led to them becoming one of the world's leading manufacturers in a range of industries, including shipbuilding, mobile phones and automobiles.

New Zealand

New Zealand made a conscious decision to make its national dairy industry globally competitive. The government passed the Dairy Industry Restructuring Act in 2001 and signed a beneficial free trade agreement with China in 2008.[52]

The outcomes of New Zealand's purposeful policy intervention speak for themselves; New Zealand has experienced just under 12 per cent per annum growth in total dairy exports since 2004, compared to Australia's 0.1 per cent growth.[53]

China

In 2013 the central government released a highly targeted strategy to increase the rate of growth in information consumption by an average 20 per cent annually.

The strategy states that by 2015, e-commerce and online retail transactions should exceed three trillion, and the equivalent of $500 billion respectively.

7. Implementing a sector approach to growth

Rethinking the role of government in driving growth

Implementing a new framework for growth needs governments to take a leading role in identifying where Australia can competitively tap into sources of global demand, setting direction and then taking action, in partnership with industry, to achieve this direction.

Direction setting

The government has a role to articulate a direction and growth strategy. It should explain where Australia stands today, how the government plans to build prosperity, the benefits of reform that will accrue to Australians, and the role of major government policy elements – tax, fiscal policy, population policy, employment policy, better regulation, industry policy – in helping to achieve this direction.

By clearly articulating a direction, it enables and encourages the public service, the community and businesses to organise their activities, strategies and approach in order to contribute to achieving this direction. Businesses act on signals; it is essential that these signals are clear and consistent.

Possible initiatives and reform directions

- Once every year the Prime Minister should make a speech to the nation that outlines a vision for Australia over the medium term (5 to 10 years). This should include an assessment of our current position against that vision and the government's strategy for achieving that vision.
- The Commonwealth Government should use the National Industry Investment and Competitiveness Agenda to adopt a sector approach to growth that identifies the key structural adjustments that are needed to enhance the competitiveness of Australia's industry sectors.
- To do this, the Commonwealth should develop an economy-wide understanding of sector competitiveness that identifies for each sector global growth opportunities, Australia's current competitiveness and the barriers for each sector to becoming or maintaining competitiveness at a global level.
- Based on this understanding, the Commonwealth should prioritise and tailor its existing reform program. In the first instance, priority should be given to those sectors that offer the highest growth potential or that need to transition to a new segment of the value chain.
- Implementing and maintaining this sector view of the economy should be the continuing role of all Commonwealth and state industry departments.

Structural reform to create the innovation infrastructure

While governments do not control business innovation, they influence the incentives and enablers of innovation, through how many people live in Australia and their skills, tax and fiscal policy, public infrastructure, regulatory policy, technological infrastructure, the risk-taking environment, educational standards and public research priorities. Specific actions to build the innovation infrastructure are discussed in the next section.

Facilitating and coordinating sector competitiveness

The Australian Government has a longstanding traditional role in facilitating competitiveness and coordinating actions to enable growth. This cuts across many policy domains, including tax policy, trade and investment, skills and education, regulation and industry policy, and governance, such as the federation and how government enterprises are made to compete.

Over the last several years this role has been poorly coordinated and executed. Risk taking, which is vital to innovation and competitiveness, has been stifled by heavy-handed regulation, and market design has been poorly directed.

This traditional facilitation and coordination role should be renewed and focused on growing industries and sectors that will make the biggest difference to Australia's economy and to employment. Governments should be prioritising all decisions and reforms to promote Australia's comparative advantages. This includes:

- implementing effective governance arrangements that facilitate competitiveness, such as improving the functioning of the federation
- undertaking tax reform to implement a system that is fit for a global marketplace
- taking a systems approach to designing policies and markets that will facilitate competitive industry sectors, based on our comparative advantage. This entails government coordinating action across multiple policy domains and sectors
- prioritising red tape reduction programs to facilitate the competitiveness of growth sectors, transitional sectors or enabling sectors
- ensuring Australia's trade missions and policies are focused on facilitating access to overseas markets based on the sector approach outlined in the previous section.

Incentivising and enabling competitiveness

Governments have a role in enabling innovative new business models, fostering entrepreneurship and incentivising growth. This will require careful investment, prioritised within the framework outlined in the previous sections. This includes, for example:

- urgent investment to encourage and assist those sectors that are in transition to invest in the new technologies and business models that will move their sectors to a more competitive position. This should be made by way of innovation networks. The UK's innovation program is a good example of this type of program (see Exhibit 5)
- fostering entrepreneurship and innovation through programs such as the Entrepreneurs' Infrastructure Program, with expenditure in these programs prioritised according to Australia's competitive advantages and growth opportunities
- incentivising entrepreneurship and start-up companies by reforming the tax treatment of employee share schemes.

Exhibit 5: Catapult networks

The UK has developed 'Catapult networks', which are designed to transform the UK's capability for innovation in seven specific areas and help drive future economic growth. The seven areas are high-value manufacturing, cell therapy, offshore renewable energy, satellite applications, connected digital economy, future cities and transport systems.

The Catapult networks are a series of physical centres where the very best of the UK's businesses, scientists and engineers work side by side on late-stage research and development, transforming high-potential ideas into new products and services to generate economic growth.

The funding model will vary through the life of the technology and innovation centre and can be expressed in simplified terms as following the one-third, one-third, one-third model. Under this model, centres are required, when fully established, to generate their funding broadly equally from three sources:

- business-funded R&D contracts, won competitively
- collaborative applied R&D projects, funded jointly by the public and private sectors, also won competitively
- core public funding for long-term investment in infrastructure, expertise and skills development.

Each Catapult centre is its own separate legal entity, controlled by their own boards with an executive management team responsible for the day-to-day management of the centre.

Source: https://www.catapult.org.uk and https://www.innovateuk.org

Governments also have a role in providing incentives for sectors to transition and innovate based on our competitive advantage. This can be done by:

- focusing and prioritising public research funding around Australia's comparative advantages, to enable growth in those sectors where there is strong demand, or that hastens the transitional sectors to a more competitive position
- tailoring competition policy so that it recognises the dynamics and primacy of global markets.

Possible initiatives and reform directions

- The government should look to emulate the UK's successful innovation program to develop areas where Australia has potential comparative advantages, such as mining services or gas and energy industries, for example.
- The government should implement changes to the arrangements surrounding employee share schemes that will improve the competitiveness of Australian businesses and enhance the operation of the Australian innovation system. This should be done by bringing Australia into line with the rest of the world by making the point of taxation for employee share schemes at the time at which the shares, or rights are exercised.
- The government should continue to develop the Entrepreneurs' Infrastructure Program. To ensure its effective operation, the program should be focused on driving collaboration and providing access to networks.
  - » Given limited resources, access to advice and funding should be prioritised towards (but not restricted to) businesses in sectors in which Australia is, or can be, globally competitive.
  - » Coordination with states and territories will be important to ensure efficient and effective service delivery and to avoid duplication.

Develop specific national sector strategies

Strategies for key national sectors should be developed. These sector strategies would implement structural reforms to facilitate each sector to either transition, improve its competitive position or develop a globally significant presence.

Developing, implementing and revising sector strategies is the proper role of an industry department. National sector strategies are not once-off reviews – all governments should have a clear view at all times of the competitive outlook of their key industry sectors and a plan to continually lift their competitiveness.

Sector strategies should have different objectives based on a sector's growth potential and importance to the economy. The strategies should:

- actively and purposefully implement policies to enhance the international competitiveness of industry sectors in which Australia currently possesses an advantage or has the potential to do so and for which there is strong growth in demand
- remove all possible barriers to lowering costs and transitioning to a more competitive business model or structure for those industry sectors that are currently not globally competitive
- improve the productivity performance of those sectors that provide critical inputs to trade-exposed sectors and that are Australia's biggest employers and are most likely to be (including retail and wholesale trade, logistics, utilities and construction).

Priority should be given to developing strategies for those sectors where Australia has the potential to be globally competitive – these sectors will drive growth and wealth creation – and to transitional sectors, which have only a limited window of opportunity to change their business model.

Exhibit 6: National sector strategies

Sector strategies would articulate a goal for priority sectors based on their criticality and capacity to win:

- to drive growth to establish a globally significant presence
- to lift competitive performance to enable trade-exposed sectors and secure jobs and tasks in the global labour market
- to transition to a new value segment.

Sector strategies need to identify demand opportunities and the segments of the value chain in which Australia can be competitive.

Sector strategies would consider all issues that are relevant to a sector achieving its goal, including:

- industry structure and coordination with other sectors in the value chain
- workplace relations and skills requirements
- regulatory barriers
- availability of growth capital and investment requirements
- infrastructure requirements
- appropriateness of arrangements for publicly funded R&D and the effectiveness of incentives for private R&D
- approaches to market development and coordination with other sectors and government departments
- the impact of current federal and state taxation arrangements on innovation.

Based on an assessment of these issues, a structural adjustment package would be adopted by the government with a clearly defined implementation path, responsibilities for delivery and measurable indicators of success.

Possible initiatives

- National sector strategies should be developed for each critical sector in the Australian economy, consistent with Exhibit 6. Priority should be given to those sectors that offer the highest growth potential or that urgently need to transition to a new segment of the value chain.
- To assist in this process, the Treasurer should task the Productivity Commission to conduct rolling reviews of the cumulative regulatory burden of Australia's critical growth and enabling sectors.

Put in place governance arrangements to deliver a sector approach

Implementing the framework outlined above is not without risk. It needs to be developed in partnership with industry and on the basis of thorough research and high-quality data – even then, there is no guarantee of success. It requires governments and industries to take a calculated risk together to drive higher growth. This is essential to producing an innovative economy, which cannot happen without risk.

This approach demands a joined-up approach to implementation within and across Australian governments and between governments and industry.

Possible reform directions

- The Commonwealth and state governments should agree to adopt this framework and all governments should agree to align their industry policies by adopting specific objectives and actions. A program of work should be agreed to achieve the objectives for different industry sectors, as outlined above.
- The Minister for Industry should put in place governance arrangements to develop sector strategies by:
  - » tasking the Industry Ministerial Advisory Council to advise how high-potential sectors and those sectors that need to transition can become more competitive
  - » providing the Ministerial Advisory Council with the support of a small secretariat from within the department (drawn from existing departmental resources)
  - » requiring the advice on each sector to be provided no more than four months from the time the Ministerial Advisory Council starts its consideration

- Implementation of sector strategies should be overseen by a taskforce, chaired by the Minister for Industry, with senior representatives from across other relevant agencies.

Accelerate the development of strategies for growth of the mining, agriculture and energy sectors

Sector strategies should be developed urgently for the mining (including LNG), agriculture and energy sectors. If timely action is taken, these sectors offer significant opportunities to generate wealth and drive growth and employment in areas where Australia has natural advantages.

Maintaining a globally significant mining sector

Rationale

The competitiveness of Australia's resources sector has declined over the last decade. Soaring costs of inputs, relatively low labour productivity, and regulatory delays have caused capital costs to blow out and projects to be delayed.[54]

Australia has a tremendous opportunity to develop a globally significant LNG industry. Australia has three operational LNG export facilities and a further seven LNG plants under construction. Once they are completed, Australia will be the largest LNG exporter in the world.

There are a number of additional planned projects, representing up to an additional $150 billion of capital investment at risk.[55]

The focus of a sector strategy needs to be on improving certainty for investors, as mining and LNG projects are critically reliant on foreign capital (the LNG sector in particular). To do this, regulatory processes that can cause delays and additional costs need to be de-risked This will enable investors to fund the development of more marginal resources (ore bodies and gas deposits) that require more innovative methods to extract them or bring the product to market.

Evidence

In its review of major project assessment and approval processes, the Productivity Commission proposed all jurisdictions should move towards a 'one project, one assessment and one approval' framework. The same report stated that an unnecessary delay to the approval of a major project 'can cost a proponent, and the community, several hundred millions of dollars or more, depending on the size of the project and the nature of the unnecessary delay'.[56]

Previous analysis by McKinsey & Company estimates that the cost of building new LNG projects in Australia is 20 to 30 per cent higher than that of global competitors.[57]

In 2012 it was estimated that Australian resource projects cost 40 per cent more to deliver than in the US Gulf Coast and that labour productivity was at least one-third lower.[58]

The savings from minimising delays associated with greenfields agreements can be significant. For example, the Department of Employment estimates that shortening delays by two months for a major energy project would save $4.6 million in net present value. Across the board, if half of the average ten projects that move from the 'Feasibility' to 'Committed' stage in the resources and energy sector avoided delays in greenfields negotiations by two months, this would save $23 million a year spread across five projects.[59]

Possible reform directions

Immediate priorities

- A national approach to assessing and approving major resource, energy, infrastructure and industrial projects should be established. This would recognise the significance of these types of projects to national productivity growth.
- To ensure that the states implement a national approach to assessing and approving major resource, energy, infrastructure and industrial projects, the Commonwealth Government should hold at risk significant funding (possibly through existing funding earmarked for infrastructure). These payments should be held at risk against demonstrable improvements in state government planning performance.
- Key elements of this reform would see state governments implement a suite of reforms to the strategic planning and approvals processes for major energy, resource, infrastructure and industrial projects, including:
  - » conducting improved strategic planning that provides land-use permissibility for economic development, including infrastructure, major energy, industrial and resource projects, in the same way as is done for future housing settlements

- » adopting a single major project approvals process for major energy, resource, infrastructure and industrial projects based on a dedicated assessment track that includes one statutory timeframe from Environmental Impact Statement exhibition through to a project decision, and all secondary approvals
- » automatic declaration of major project status based on capital value and industry characteristics
- » standard, industry-specific terms of reference for impact assessments
- » risk-based assessment guidelines, that implement the Australia–New Zealand standard for risk assessment
- » a six-week, statutory timeframe for decision once an assessment report has been received by the responsible agency
- » where necessary, standard, industry-based conditions on approval

- The government should consider introducing a new category of agreements – Major Project Agreements – as recommended by Australian Petroleum Production and Exploration Association (APPEA), that would apply specifically to major capital projects in the resource, energy, infrastructure and industrial sectors. These agreements would provide certainty over workplace arrangements for the construction phase of the project.

Medium-term priorities

- Occupational health and safety and occupational licensing arrangements should be reviewed for these sectors with a view to accrediting company schemes that meet the standards required by government. This would enable high-performing companies with a strong track record to innovatively and effectively manage their workplace safety obligations in a manner that works best for the company and its employees.

Establish globally significant agricultural and food production sectors

Problem and reform rationale

Australia has competitive agricultural and food production sectors. But there are structural issues that need to be tackled to ensure these sectors can be part of the surging demand from developing economies in Asia.

Demand for agricultural products is set to grow rapidly as a result of rising incomes and populations in Asia. For example one report finds that agricultural exports of $37 billion today will grow to $73 billion a year in a base case or $115 billion a year under a ‘high growth’ scenario off the back of increased demand from China.[60]

While Australia’s agricultural and agribusiness sector is a strong performer, other countries are offering strong competition. To take advantage of demand in Asia the sector needs to focus on high-quality, high-value-add processed and manufactured food products. This entails reforms to remove structural weaknesses in the sector. The key focus of a renewed industry policy for the agricultural sector must be to:

- adopt a single-minded focus on the export market
- facilite a major aggregation of both producers and food manufacturers and coordinate this with improvements to the logistics chain in a way that maintains vibrant rural communities
- remove remaining trade barriers to Asian markets, particularly those where our key competitors enjoy free access

This also needs to be coordinated with improvements to important links in the transport and logistics network that facilitates exports, as well as similar improvements in the food processing/manufacturing sector.

The government’s white paper on agricultural competitiveness is a prime opportunity to deliver this sector strategy.

Evidence

The success of the New Zealand dairy industry is an example of how the adoption of a global orientation has been a catalyst for domestic growth. New Zealand has actively pursued the signing of free trade agreements with many countries across Asia. As a result, New Zealand dairy exports into China are not subject to the 5 per cent tariff levied on competing Australian dairy exports, creating a material difference in the competitiveness of the two products.[61]

The average age of Australia’s farmers is currently around 52.[62] At the same time the number of graduates from agricultural-related courses has declined by 30 per cent over the last decade.

This will hinder the capacity of the sector to expand in response to rising demand from China.

Possible reform directions

The key focus of a sector strategy for the agricultural sector must be to:

Immediate priorities

- Adopt a single-minded focus on developing new export markets, particularly for high-value produce.
- The agriculture white paper needs to develop an understanding of the differentiated supply chain and the actions that need to be taken for Australian businesses to tap into this demand.
- Negotiate free trade agreements with Taiwan and Hong Kong to get preferential access for our beef and other agricultural suppliers, and services and investment access.
- Fast-track negotiations to conclude the Trans-Pacific Partnership and a free trade agreement with China.
- Prioritise Australia's FTA agenda to maintain our comparative advantage in agriculture. This could involve a broad reworking of Australia's existing FTAs under negotiation and identification of future FTAs to start negotiating.
- Explore ways to aggregate farms to achieve greater economies of scale and to lift productivity, and attract investment. As part of this effort the government should:
  - » review barriers to farm consolidation that exist due to state government planning and zoning laws
  - » examine the introduction of economic and market incentives to better manage environmental values on agricultural land in order to allow more efficient and expansive use of landholdings
  - » review ownership (nationality, corporate structure) and primary use of rural land with a view to determining the policy options available to government to incentivise aggregation.

Building a competitive advantage in energy

Problem and reform rationale

Australia should be an energy superpower. Being blessed by access to all sources of energy, Australia should be producing low-cost reliable supplies of energy as a key driver behind the competitiveness of the Australian economy.

This has happened in the past, but our historical competitive advantage in this area is under threat from poor market design, poor regulation and poor coordination between governments.

We urgently need to lift the productivity of Australia's energy-producing sectors if we are to continue to see our economy grow. Completing the final pieces of energy market reform, removing market interventions, and bringing on new gas supplies are essential areas of reform if we are to maximise Australia's competitive advantage in energy.

Electricity

The cumulative impact of policies such as the Renewable Energy Target (RET), the carbon tax, a variety of state-based energy schemes, alongside policies that have contributed to rising network costs, are eroding the competitiveness of Australian business and should be wound back.

The Australian energy market reform agenda needs to find new momentum.

Some states are lagging behind. New South Wales and Queensland have announced steps towards privatisation of energy assets and retail price deregulation, and the remaining states of Western Australia and Tasmania should also seek the benefits from these reforms for their states.

Further reform is also required to promote efficient network investment and a more national and economically sound framework to distribution and transmission network reliability that accords with the economic probability of risk.

Once these outstanding reforms are carried out, greater productivity improvements from the energy sector will be realised, with increased competition delivering greater choice and real savings to consumers.

Gas

The east coast gas market is undergoing a significant transformation, with the market set to triple in size in the next few years once exports of LNG reach full capacity. The combination of higher production costs, barriers to new gas supply developments and increased demand is putting upward pressure on the price of gas for this previously isolated domestic market.

Putting downward pressure on the price of gas will require allowing greater gas resources to be developed and supplied to the domestic market. The challenge lies in getting new gas supplies to market quickly. The immediate national priority must be to bring on timely gas supplies to meet demand and provide for the competitive supply of gas.

However, a number of obstacles stand in the way of additional supply capacity coming on stream, such as:

- a lack of political leadership, particularly by some state governments
- restrictive regulations in some states (such as moratoriums on fracking)
- inefficient environmental and planning regulatory approvals processes
- community opposition to coal seam gas
- growing project costs that are lessening Australia's attractiveness as an investment destination.

In order for Australia's gas markets to deliver on the objective to service the long-term interests of consumers, our gas markets need to be supported by government decision making and a regulatory environment that allows for the free market entry of new gas developments that are meeting the appropriate environmental standards.

The risk is that if governments fail to act to support the gas sector, a potential huge source of future economic growth for Australia will be lost, taking with it potential new employment and taxation revenue opportunities.

Evidence

Electricity

The evidence behind the benefits of energy market reform are demonstrated by the benefits provided to Victorian electricity consumers.

In the 15 years since privatisation and with the introduction of economically efficient reliability standards, Victoria's electricity consumers have enjoyed the lowest price rises of any state within the National Electricity Market (NEM).[63]

The private ownership and economically efficient reliability standards of Victoria's electricity networks has underpinned the state's lower power prices. A 2011 Ernst & Young study found that Victoria's network costs decreased by nine per cent (on a per customer basis) between 1996 and 2010. Over the same period, network costs in Queensland increased 105 per cent in real terms.[64]

Gas

The Australian Government's Eastern Australian Domestic Gas Market Study recognises that 'actions by governments to remove any unnecessary technical and regulatory barriers to development [of natural gas] will also be important in bringing on additional gas supply, enhancing upstream project completion and improving market outcomes'.

The benefits of the LNG sector to the state of Queensland are clear, with more than $60 billion invested in the state. This has led to more than 27,000 people, including contractors, working in Queensland's natural gas industry as at December 2012, compared to only 300 people employed in New South Wales where the industry's development has been restricted.[65] The Queensland Government expects the LNG sector to increase the state's economic output and generate around $1 billion per year in state revenue.

Possible reform directions

Electricity

To reduce pressure on the price of electricity, the Australian Governments should:

- amend the Renewable Energy Target (RET) to a true 20 per cent by 2020 target and not extend the target once all obligations have been met in 2030.
- build momentum to complete the outstanding energy market reform agenda through the Council of Australian Governments (COAG) Energy Council to:
  - » support Western Australia and Tasmania following other states to privatise their energy assets and move to deregulate electricity prices
  - » adopt economically efficient reliability standards for network assets.

Natural gas

To minimise upwards pressure on the price of gas, the government should:

- establish stable and efficient regulation for gas development by:
  - » implementing the one-stop shop under the Environment Protection and Biodiversity Conservation Act (EPBC Act) and streamlining existing state approval processes, regulation and administration
  - » removing the existing moratoriums on fracking that are not based on science or engineering
  - » committing to no further exclusion zones that are not based on scientific data.
- seek to build community confidence in the scientific-based regulatory process that applies to natural gas development. This could be achieved through enhanced community engagement by independent authorities such as CSIRO, the Independent Scientific Committee, state-based gas commissioners and industry
- encourage state governments to expedite priority gas projects by providing additional resources and expertise to the state government administration of project approvals processes and/or National Productivity Payments.

8. Structural reforms to build the innovation infrastructure

The innovative potential of an economy will not be realised if any one of the vital elements of innovation infrastructure is out of place, and importantly, if their implementation is not mutually reinforcing. Getting this right is a complex task, and governments need to collaborate deeply with businesses and the community to identify where the gaps are and the possible consequences of any proposed intervention.

While business has an important role to fill in this respect – including by fostering greater collaboration – it is the fundamental job of government to ensure Australia has an innovative economy.

There are a series of policy actions that need to be taken to enable a competitive economy and to support a sector approach. These actions include:

- actions to lift trade and investment and foster business risk taking to ensure growth sectors can attract the capital for major projects and to achieve economies of scale and so that transitioning sectors can make investments in productivity and restructuring
- regulation and competition policy for a global market to lift the performance of all sectors and allow companies to contribute to global supply chains
- preparing Australians to compete in a global labour market to ensure our human capital is maintained as a competitive advantage
- reducing labour market rigidities to allow transitional sectors to move within the value chain and to enable competition at the task level
- developing the physical infrastructure and population policy for an innovative economy
- fostering collaboration to increase innovation, access global markets and secure Australia's competitiveness.

Lift trade and investment

Continuing and extending trade policy reforms

Problem and reform rationale

Australia's agricultural sector, in particular, and globally competitive sectors in general, rely on free access to growth markets to successfully capture additional market share. Remaining market barriers stifle otherwise competitive sectors, particularly where Australia's main competitors have preferential access.

In negotiating free trade agreements, priority should be given to securing access on the basis of Australia's competitive strengths and where demand is likely to be strongest.

Evidence

The success of the New Zealand dairy industry is an example of how the adoption of a global orientation has been a catalyst for domestic growth. New Zealand has actively pursued the signing of free trade agreements with many countries across Asia. As a result, New Zealand dairy exports into China are not subject to the 5 per cent tariff levied on competing Australian dairy exports, which creates a material difference in the competitiveness of the two products.

Possible reform directions

Immediate priorities

- Negotiate free trade agreements with Taiwan and Hong Kong to get preferential access for our beef and other agricultural suppliers, and services and investment access.
- Fast-track negotiations to conclude the Trans-Pacific Partnership and a free trade agreement with China.
- Identify the implementation of FTAs in a similar way to New Zealand.

Medium-term priorities

- Notwithstanding the need for separate rules for proscribed sensitive sectors, investigate pre-approving qualifying foreign state-owned enterprises to invest up to the US and New Zealand private sector threshold ($1.1 billion) provided they commit to certain behavioural undertakings around transparency, corporate governance and commercial objectives.

Increasing access to growth capital

Problem and reform rationale

Securing finance at reasonable rates and on reasonable terms is critical to competitiveness and innovation. Finance allows firms to secure the capital that is required to remain at the productive frontier and enables risky projects to be developed.

This is critical for transitional sectors that have only a short opportunity to invest in new capital and technology to move to a new production model or part of the value chain that better reflects Australia's comparative advantages.

Australia has always been a net importer of capital and is reliant on foreign investment to secure funding for growth. Our most competitive sectors with the highest growth outlook, including the resources sector and agriculture, are critically reliant on foreign capital to fund their projects.

Another source of finance is the corporate bond market. In Australia this market is much shallower than in the US, for example. Further development of this market will provide another important source of finance for Australian businesses and increase competition in the banking sector, which in turn will increase access to growth capital.

Evidence

State-owned enterprises (SOEs) and sovereign wealth funds are playing an increasing role in foreign direct investment. According to the United Nations Conference on Trade and Development (UNCTAD) estimates, there are at least 550 SOEs from both developed and developing countries, with more than 15,000 foreign affiliates and estimated foreign assets of US$2 trillion globally. Foreign direct investment by these SOEs is estimated to have reached more than $160 billion in 2013, a slight increase after four years of consecutive decline. Although the number of SOEs accounts for less than 1 per cent of the universe of transnational companies, they account for over 11 per cent of global foreign direct investment (FDI) flows.

Possible reform directions

Immediate priorities

- Increase public support, confidence in and understanding of Australia's foreign investment position by publishing monthly online one-page summaries of all Foreign Investment Review Board (FIRB) decisions and statistics by country, size and sector.
- Increase the threshold for all private sector foreign investment from all countries to the $1.1 billion threshold enjoyed by the US and New Zealand.

Medium-term priorities

- Notwithstanding the need for separate rules for proscribed sensitive sectors, investigate pre-approving qualifying foreign state-owned enterprises to invest up to the US and New Zealand private sector threshold ($1.1 billion) provided they commit to certain behavioural undertakings around transparency, corporate governance and commercial objectives.
- Broaden and deepen Australia's domestic debt market.
  - » The government should continue to support the development of a corporate bond market, including by creating a proper risk-free rate curve for participants through the issue of government debt with longer maturities (or encourage the use of the credit swap rate as a substitute).
  - » Steps should be taken to develop a standardised set of bond issuance documents, along with measures to improve the ease with which corporate bonds can be listed on the ASX.

Implement regulation and competition policy for a global market

Competition policy that recognises the role of dynamic global markets

Problem and reform rationale

Australia's competition policy and the Competition and Consumer Act need to reflect the globally competitive landscape. Domestic markets that appear less competitive or concentrated at first glance are likely to be much more competitive when considered, where appropriate, through a global lens. Even if a global competitor has not entered the Australian market, lower barriers to entry and the mere threat of entry provide strong incentives for vigorous competition from incumbents. In some instances, technology will facilitate a rapid build-up of scale, but in other areas globalisation will mean that Australian firms are competing with specialised global firms.

It is critical that firms that need to transition to a new value proposition have the option of being absorbed into larger companies, for example, to combine a product line with established supply chains.

Similarly, those sectors that could be competitive at a global scale should be allowed to achieve economies of scale where there is a credible threat of market entry, the discipline of competition is maintained, and consumer access to goods and services is not materially diminished. Accordingly, competition law must efficiently allow companies to achieve scale where consumer protections are maintained.

Evidence

Recent studies have shown that over the last decade the amount of intermediate goods sourced from local suppliers by Japanese firms which later sold into foreign markets has decreased. Similar results were found for the rest of Asia and Europe. This means that, at least for these markets, part of the process of producing the final good or service is taking place across borders.[66]

The pace of technological change is accelerating. Through consumer websites and forums as well as social media, real-time feedback and data capture, consumers are increasingly shaping the goods and services that companies provide. Last year, 78 per cent of consumers researched a product or service on their smartphone.[67] In the last 12 months, online retail sales have increased by 6.4 per cent and now represent around 6.6 per cent of traditional retail sales.[68]

This is fundamentally changing the nature of competition and is challenging regulatory arrangements.

Possible reform directions

- The Competition and Consumer Act (CCA) should be amended to clarify that in any competition assessment, the global dimension of markets must be taken into account, and dynamic competitive effects in markets are to be preferred over static measures such as historical concentration.

Remove regulations that act as a barrier to competing at a global standard

Problem and reform rationale

Removing impediments to competing at a global standard is critical to stripping out the costs and improving the productivity performance of the Australia's enabling industries and our largest employers. It will also enable the transition of sectors that are currently uncompetitive.

A range of regulations and instruments have been identified that can have the effect of impeding competitive markets. The impediments need to be tackled based on an assessment of materiality both now and in the future.

There are numerous examples of these sorts of regulatory barriers that if removed or streamlined would, on a cumulative basis, significantly boost the competitiveness of our economy and its productive potential.

In an increasingly dynamic global competitive landscape, it follows that business needs to be increasingly agile to compete. Regulation that impedes the ease and timeliness with which businesses can restructure or innovate to more effectively compete simply detracts from Australia's potential growth.

Evidence

These sorts of barriers come at a considerable cost to the economy and Australia's competitiveness. For example:

- A recent study found that in Queensland alone, removing restrictive retail trading regulations would provide an annual boost to the economy of $200 million.
- Cabotage restrictions under the Coastal Trading Act 2012 are causing Australian firms to pay shipping rates that can be up to double the rates offered by foreign ships, adding tens of millions of dollars to their cost base and making their operations less viable as a result.
- It recently took Cochlear, an Australian-based exporter of medical devices, 14 months longer to gain product approval in Australia than in Europe. (A number of countries require a device to be approved in its country of origin before it can be approved for use in the export destination country. Therefore, after obtaining regulatory approval in Europe, it took an additional 14

months before Cochlear could even start to apply for product registrations in other key markets such as India.)

- In an illustration of the potential gains in reducing approval times, the Productivity Commission has found that expediting the average approvals process for oil and gas projects would increase the value of projects by 10 to 20 per cent with billions of dollars of income gains for Australians.

Recommendations

Immediate priorities

- Remove the legislated cabotage restrictions in the *Coastal Trading Act 2012* to move to an open, globally competitive coastal trading sector, with foreign and Australian vessels continuing to be subjected to all other Australian laws.
- Repeal the Australian Jobs Act, which mandates government-approved Australian Industry Participation Plans for private investment projects over $500 million.
- Australia's governments must immediately set a timetable and process for aligning state-based retail trading hours, and coordinate a state-based reform agenda for removing the most restrictive and inconsistent regulatory restrictions affecting the retail sector.
- Agree that within 18 months, states and territories will implement mutual recognition for occupational licences that would enable people with valid licences in one state to work in another state, based on the 'drivers licence' model.

Medium-term priorities

- Australian governments should adopt as a principle that where a regulated good or service is tradeable, and subject to a regulatory approval by a European Union, a US, or Canadian national regulator, then there should be a strong presumption in favour of automatic recognition of those countries' approval. This is a process that individual Australian jurisdictions should be prepared to adopt unilaterally.
- The Commonwealth Government should put in place institutional arrangements to drive competition and regulatory reform at the state level. This should include a system of productivity payments that incentivise reforms that materially improve national productivity.

Prepare Australians to compete in a global labour market

Technology, reduced barriers to trade and rapid economic development in developing nations is fundamentally changing the nature of work.

Technology now means that value chains are widely dispersed and there are more ways for individuals to participate in a production process. For example, internet connectivity is enabling individuals to offer their services at distance. Robotics and automation are changing the nature of an individual's contribution to productions from assembly tasks to design.

This means that capabilities and skills, and how they formed and regulated within the labour market, will increasingly define national competitiveness. Having the right skills and capabilities will allow a competitive nation to participate in widely dispersed value chains, regardless of the location of final demand for the good or service that is being produced.

For individuals this means that skills, capabilities and tasks need to be considered as tradeable as commodities and services.

For policymakers and businesses, the challenge will be to ensure Australia has available to it the most skilled and capable workforce, regardless of qualification level, and that this workforce is regulated in a competitive way.

Foundational skills and skills for work

The Business Council made a series of recommendations in its 2013 *Action Plan for Enduring Prosperity* aimed at improving the foundational skills of young people, lifting the quality of instruction and ensuring more equitable educational outcomes. We continue to believe that these actions are vital to Australia's economy and to sustaining a just and fair society. These recommendations include:

- ensuring that literacy and numeracy deficiencies in school students are addressed early by requiring, as a condition of Commonwealth funding, that state governments make sure primary students meet minimum standards before entering secondary school
- reforming the funding arrangements for all schools to a new 'per-student' funding model that is appropriately weighted to account for the increased costs associated with teaching disadvantaged students; and separate the budget allocation decision from the funding model implementation

- encouraging and supporting excellence in school teaching through:
  - raising the entry requirement for teachers through a restriction of the Commonwealth tertiary education subsidies for teacher education to those with demonstrated high educational ability
  - the Commonwealth offering teachers a training guarantee to support ongoing professional development
  - state governments allowing, as a condition of receiving their Commonwealth funding, school principals to have full autonomy over resource allocation decisions, including hiring and firing.
  - financially rewarding high-performing teachers and those with specialist knowledge and skill
- building on Australia's strength as an education exporter by implementing the recommendations of the International Education Advisory Council.

Turn around underperforming schools

Problem and reform rationale

In addition to the recommendations made in the BCA economic plan, more action should be taken to turn around underperforming schools. This is often a resource-intensive effort which needs to be based on successful, evidence-based approaches.

Work-integrated learning has been trialled for underperforming secondary schools (the US PTech program – a partnership between New York Public Schools, the City University of New York and IBM, which teaches science and maths skills, along with problem solving and inquiry, to school students who are put to work on real-world problems – and similar Australian programs), some university courses and some VET courses. These programs should be trialled more extensively, evaluated and implemented as mainstream programs where appropriate.

Possible initiative

- In each jurisdiction, trial programs based on the US PTech model and similar state government programs aimed at providing a better pathway between school education, VET studies and work.

Improve science, technology, engineering and mathematics (STEM) capabilities

Problem and reform rationale

To enable our businesses and individuals to compete internationally, we need to be equipping people with the skills and capabilities to meet the demands of a growing, technology-enriched economy.

Studying STEM subjects is a powerful way to develop the problem-solving and evidence-based thinking skills required in a modern economy. A study has shown that students who have graduated from STEM-related courses are valued by employers for these skills.

At a more basic level, an ability to understand data and work with technology will be increasingly important across all sectors. It is critical that Australians' skills in these areas are at a world standard as they will be critical to their ability to compete in a global marketplace.

Research on the need for quality teaching of mathematics and science in the primary years is compelling in terms of student attitudes and later accomplishment in the secondary years.

Evidence

A recent survey commissioned by the Chief Scientist found that over 70 per cent of employers nominated their STEM staff as among their most innovative.[69] Further, employers rated those with STEM qualifications higher than non-STEM-qualified employees with respect to the most important identified capabilities: (1) active learning, (2) critical thinking, (3) complex problem solving and (4) creative problem solving.

Students' lack of adequate exposure to skilled teachers at critical decision-making points is a barrier to take-up of STEM studies.

In 2009, PISA reported that around 30 per cent of Australian 15-year-old students are taught by unqualified mathematics teachers and 24 per cent by unqualified science teachers, with the OECD average of each being only 18 per cent.

The Productivity Commission estimated that the number of teachers teaching mathematics who were not qualified to do so is between 15 and 25 per cent.

The number of suitably qualified mathematics teachers has been declining. For example, the number of teachers with at least three years of relevant tertiary education in the field declined for Years 11 and 12 from 68 per cent in 2007 to 64.1 per cent in 2010. For Years 7 to 10, this figure declined from 53 per cent in 2007 to 45.8 per cent in 2010.

Possible reform directions

Immediate priorities

- Ensure that secondary mathematics and science are taught by qualified subject specialists.
- Make Year 12 mathematics a prerequisite subject to enrol in primary teacher education.
- Introduce specialised teachers in mathematics and science into all primary schools.
- Introduce computer coding as a compulsory subject as part of the national curriculum.

Vocational education and training

Problem and reform rationale

The changing nature of work and the shift from awards and qualifications to skills and capabilities have implications for the whole education system, but particularly for VET which is often the part of the education system that equips people to move from lower to higher value jobs.

VET has been relatively overlooked compared with schools and universities in the public debate on education. The priorities for VET are to:

- restore the role and status of VET as a national priority
- resolve roles and responsibilities between the states and Commonwealth
- better integrate the VET system with other parts of the education system and with industry
- improve regulation in support of a more dynamic, effective and innovative system, including allowing public providers to operate on a more commercial basis
- conduct a thorough assessment of the real future investment requirements of VET.

Evidence

BCA members find that VET graduates have inadequate or out-of-date technical skills, inadequate foundation skills, and inadequate employability skills. Industry submissions to a recent Productivity Commission inquiry were also critical of the quality and work-relevance of VET services, despite reported high satisfaction levels in surveys of employers who use the public VET system. For employers who are dissatisfied with public VET providers, the major reason for dissatisfaction is the quality and standard of VET training, followed by the lack of emphasis on technical skills acquired and lack of employability skills taught.

Possible reform directions

Immediate priorities

- Restore the role and status of VET as a national priority.
- Task the white paper on the federation to examine the roles and responsibilities of the states and the Commonwealth within the VET system, with regard to the national nature of the labour market and increasing competition from overseas – for workers and also for products and services.

Medium-term priorities

- The Commonwealth should tighten the focus of the regulator, the Australian Skills Quality Authority (ASQA), to:
  - » shift the regulatory focus to lower-quality providers and away from reputable established providers
  - » focus more on outcomes and less on the regulation of processes.
- The Commonwealth should continue to encourage Victoria and Western Australia to end the separate regulation of their VET systems and instead rely upon ASQA for this function.
- All states should improve competitiveness in their VET sectors, by allowing TAFEs to operate as distinct businesses on a commercial basis. This will include the ability to borrow, manage their assets, and, importantly, to manage their workplace relations including approving enterprise bargaining agreements and having flexibility in remunerating staff.

- The Commonwealth and state governments should commission a thorough assessment of the future investment requirements of VET, including:
  - » workforce requirements
  - » population growth projections
  - » the implementation of the VET student entitlement
  - » with a view to providing consistency across the federation and ensuring adequate support for projected needs for VET-qualified workers.

Reduce labour market rigidities

Problem and reform rationale

The labour market is changing

The labour market is changing in ways that can be foreseen, and may also change in unexpected ways. It is important today and will become more important that employment relationships are managed in ways that work in favour of well-paid, secure and rewarding jobs in prosperous companies.

Efficiency and effectiveness improvements come about from managers and staff striving to improve their firm's performance. They arise from enterprise or workplace-level decisions that individuals and businesses make about investment, effort, priorities and innovation.

Workplaces are facing pressures to change in the face of mobile communications devices and the profound changes they imply for many traditional workplaces. Workers can be at work at any time, and from anywhere, giving rise to competitive pressures from workers overseas, and from non-traditional employees such as crowd-sourced contributors. Competitive pressures also arise with many highly qualified people overseas potentially interested in Australian jobs, and with lower barriers to entry for many industries and sectors.

Workplace relations need to operate in this context. They play a crucial role in protecting employees, through provision and enforcement of a safety net of remuneration and conditions. But they must do so recognising the changing world of work.

The BCA acknowledges that rigidities in the way the labour market is regulated affect some sectors more than others. The sectors with the greatest negative impacts from workplace relations regulation are also those at the greatest competitiveness risk.

Our system of workplace relations is very complex

Australia's system of workplace regulation is a very complex one, and one where significant resources are devoted to compliance activity. It is more complex and onerous than the systems of comparable countries. In part, this complexity arises from the range of issues that can be caught within the scope of workplace relations. Industrial instruments often include matters beyond those that govern the employment relationship.

Incentives for constructive engagement need strengthening

The incentives that the current workplace relations system creates do not always lead to fruitful engagement between employers and employees. There are situations where a third party can be interposed in that relationship even though neither the employer nor the employee requests or wants this.

Business agility is increasingly important

A brake on business agility is the outcome of a system that is overly complex and with misaligned incentives. Australia's businesses need more than ever to adjust swiftly to changing economic circumstances. This includes changes to business models and practices in response to market opportunities and threats. However, there are undue constraints on this agility within the workplace relations system.

Evidence

The Productivity Commission has outlined how flexible workplace arrangements enable firms to adapt to changing circumstances, through adjusting the workforce size, varying the scheduling and intensity of use of the existing workforce, moving staff between functional areas, linking remuneration to product demand and output rather than hours worked, and providing the incentive in a range of ways for employees to offer outstanding customer service or other operational efficiencies.

BCA members have experienced negative impacts from the inclusion in enterprise agreements of a range of matters that do not relate to the employment relationship. Matters include restrictions on contractors or other employment types, and operational matters such as rostering and shift duration and redundancy selection criteria. The inclusion of these matters constrains employers from adjusting their operational and business models in response to a changing economic environment and set of competitive pressures.

BCA members who operate businesses in mining and resources report that current arrangements for enterprise bargaining agreements for greenfields projects are not working. Given the time-critical nature and scale of these projects, it is critical that employers can attain a degree of certainty of project costs within a reasonable timeframe.

BCA members who operate businesses in hospitality and retail report that changed social norms and customer expectations are not reflected in the requirement to pay premium rates for work outside of a traditional span of hours. BCA members also make the point that smaller enterprises often find these arrangements particularly problematic.

Possible reform directions: short term

- The government should amend the Fair Work Act to reduce the range of matters that can be bargained over to ensure they truly pertain to the employment relationship.
  - » Matters that do not pertain to the employment relationship should be required to be removed before instruments are approved by the Fair Work Commission.
- To address concerns about the competitiveness of the mining and resources sectors, the government should strive to ensure the passage through the parliament of its amendment to the Fair Work Act that allows employer-only greenfields agreements.
  - » It should, in addition, put forward a new amendment to the Fair Work Act that creates a category of Major Project Agreement, with the flexibility to give coverage of new large capital projects.
- To address concerns about competitiveness in the retail and hospitality sectors, the government should begin a process of amending the span of hours and associated pay rates in awards in these sectors.
  - » This should start from a position that additional pay should be associated with hours beyond those agreed as standard for the job between the employer and employee.

Possible reform directions: medium term

The Productivity Commission inquiry into the Fair Work laws, which is expected to begin shortly, should focus on a workplace relations system that is suited to the emergent labour market. It should be based around the following key characteristics.

Workplace relations should be focused on the enterprise

Employers and employees at the enterprise level should be able to choose the most suitable industrial instrument for their situation.

Additional remuneration should be available in more favourable economic periods for the business but not be locked in to the extent that it jeopardises a business's viability.

A focus on governance over regulation

Contemporary management focus is shifting away from compliance towards an overall management approach through which senior executives ethically direct and control an organisation. Workplace relations should reflect this shift.

Focused solely on the employment relationship

A focus on the employment relationship avoids some of the complexity and overlap associated with issues for which separate systems have evolved, such as OH&S and discrimination. It also allows managers to properly manage those areas for which they are accountable in operational and policy terms.

Protective of employee rights

It is crucial that there be a safety net below which pay and conditions cannot fall. It is fundamental that this safety net be strongly enforced.

Responsive to changes in the economy

The system should allow and support agility and ready acceptance of change.

Workplace relations should support employee engagement and alignment with business imperatives.

Develop the physical infrastructure and population policy for an innovative economy

Problem and reform rationale

Developing our comparative advantage sectors will require a skilled workforce and a larger workforce.

It will also require a stable macroeconomic and fiscal environment with accompanying investment in physical infrastructure. To do this we must adopt a strategy of well managed population growth in order to be able to meet Australia's future demographic, economic and external challenges.

Population growth will need to be sustained to at least the middle of the century in order to:

- develop Australia's economic and strategic roles in the growing Asia–Pacific region
- address skills and workforce shortages from demographic change
- maintain public and private financial sustainability
- bring new skills, experience and capital to Australia
- grow comparative advantage industries to take advantage of new growth opportunities.

Australia must act on population policy clearly and with purpose. Other countries are realising that they are experiencing population pressures and are becoming more sophisticated and aggressive in competing for skilled labour, meaning it will become more difficult to attract skilled migrants. Australia must take a long-term view of the population dimensions and growth rates that will be needed in a changing world and put in place robust and sound population policy settings to ensure natural increase and net overseas migration are delivering the growth needed to prosper.

Evidence

The ratio of working age Australians (15–64 years) to aged Australians (above 65 years old) was 7.5 to 1 in 1971, is currently 5 to 1, and is projected to fall to 3 to 1 by mid-century. This is even under the '36 million by 2050' growth scenario.

There is widespread resistance in the community to population growth driven by factors such as congestion, which in turn are a result of poor leadership and poor management by governments.

The former government produced a national population strategy that failed to explain to the community why population growth is needed in Australia and gave the community no information on expected population growth rates.

Dedicated population strategies and skilled migration are becoming more common in other developed countries where there is also growing recognition of the challenges that population ageing has on labour supply. Australia has enjoyed a first-mover advantage in attracting skilled migrants but other countries are now catching up and becoming more competitive.

Possible reform directions

Immediate priorities

- Review Australia's migration policy settings:
  - » consider increasing the permanent migration program to 220,000 per annum. At least two-thirds of permanent migrants should be skilled migrants
  - » make the 457 visa scheme more efficient by abolishing labour market testing and streamlining 457 visa processing for accredited 457 visa sponsors.

Medium-term priorities

The government should develop a long-term national population strategy that supports the development of Australia's comparative advantage sectors by:

- committing to well-managed population growth as an economic and strategic imperative for Australia to grow national prosperity
- setting out long-term population growth trajectories. The projections for a population of 36 million by 2050 in the 2010 IGR should be the starting point, with the projections revised to reflect changing domestic and international factors. The assumptions for population growth in the soon-to-be released IGR should be based on a strategic assessment of what is needed to serve Australia's national interest
- setting out the population policies to secure the net overseas migration and natural increase needed to achieve the population strategy
- setting out policies for well-managed population growth that, among other things, develop the skills and capabilities of Australians in line with future economic opportunities and plan and invest in infrastructure and housing to keep pace with population growth

- assessing the expected regional distribution of population growth in line with growth in comparative advantage sectors and produce regional growth strategies
- explaining the rationale for population growth and putting the right policies in place to bolster confidence in the Australian community that population growth can be done well.

Foster collaboration

A more collaborative research environment

Problem and reform rationale

Collaboration between publicly funded research organisations and industry is critical to knowledge diffusion and ensuring that our investment in research translates into innovation and productivity improvements that increase our national prosperity.

The incentives faced by some publicly funded research organisations do not encourage collaboration and in some cases work against it. Addressing these fundamental incentives can improve collaboration outcomes and knowledge diffusion.

Evidence

The Commonwealth Government provides around $8.6 billion in funding support to research and development in Australia each year.

The universities sector receives $2.9 billion per year, most of which ($1.7b) comes through research block grants.

Grant amounts under the research block grant schemes are driven entirely by metrics (one or more of research income, research publications, higher degree by research (HDR) student completions, HDR student load and staff numbers). The weighting of each category depends on the stream of research being funded.

Research income is broken into four categories, one of which is 'industry and other research income'. Such income may arise through collaboration with industry.

Calculation formulas in the performance-based block funding are also influenced by the Excellence in Research for Australia (ERA) initiative. ERA is a federal government initiative that evaluates the quality of research being conducted by Australia's higher education institutions.

The incentives in the system are therefore primarily for universities to focus on getting their research published in highly ranked journals. While this is important, it does not necessarily reward collaboration with industry.

Possible reform directions – medium-term priorities

- Research effort should also be increasingly rebalanced towards industry-led research.
- Governments should review the criteria used to allocate funding to publicly funded research organisations to incentivise collaboration with industry and to strengthen our competitive advantage. While research excellence should remain at the heart of funding allocations, the review should recommend ways by which the funding criteria can ensure that collaboration with industry is also appropriately recognised.

Better aligned research

Problem and reform rationale

Given our limited resources, Australia should seek to concentrate its support for research and development where it will best contribute to our national interest, including through facilitating growth in industries in which Australia has a current, or nascent, comparative advantage.

A significant proportion of Australia's funding for research and development is provided via blunt instruments and is not targeted. This means that much of our limited funding support is being provided to businesses and industries in which Australia has limited capacity to achieve scale, or to compete internationally.

The current strategic research priorities were announced by the government in June 2013 and are used as part of the criteria for directing Australian Research Council (ARC) funding.

While they are a good start in terms of directing research funding towards national challenges, our concern is that they are not sufficiently specific to effectively prioritise research effort.

Given limited research dollars, we need to ensure that our research effort is directed towards those areas where we can make a difference and which are critical to the national interest.

Evidence

The government provides several billion dollars per year in funding to research and development in Australia, including:

- $2.9 billion per year in research funding for universities, incorporating block grants ($1.7 billion), funding and other R&D support
- $2.1 billion per year to the private sector, primarily through the R&D Tax Incentive
- $1.8 billion per year to publicly funded research agencies, such as CSIRO and the Australian Nuclear Science and Technology Organisation (ANSTO)
- $1.8 billion per year to other sources, for example through Co-Operative Research Centres (CRCs) and the National Health and Medical Research Centre (NHMRC) which receives around $1 billion annually.
- National ICT Australia (NICTA)
  - » At the last budget the government announced that NICTA's current funding levels would be maintained for the next two years, but that after that point NICTA would receive no more direct funding.
- Funding is provided to the Defence Science and Technology Organisation, which in 2014–15 had estimated expenses of $443 million
- National Collaborative Research Infrastructure Strategy (NCRIS):
  - » as part of the 2013–14 Budget, the government announced additional funding for the renewal of the NCRIS.
  - » the renewed NCRIS will provide $185.9 million from 2013–14 to 2014–15 to secure Australian researchers' access to current major research facilities and the supporting infrastructure and networks necessary to undertake world-class research
  - » at the 2014–15 Budget, the government committed an additional $150 million in 2015–16 to fund the NCRIS
  - » this additional year of funding for NCRIS projects will provide time for the government to address the National Commission of Audit recommendation that ongoing funding for research infrastructure could be informed by a reassessment of existing research infrastructure provision and requirements.

Funding through the ARC

Funding through the ARC is linked to Australia's Strategic Research Priorities. There are 15 priorities that fit across five major challenges:

- living in a changing environment
- promoting population health and wellbeing
- managing our food and water assets
- securing Australia's place in a changing world
- lifting productivity and economic growth.

The priorities contained within lifting productivity and economic growth are:

- identify the means by which Australia can lift productivity and economic growth
- maximise Australia's competitive advantage in critical sectors
- deliver skills for the new economy.

Departments and agencies of the Commonwealth must also align their activities with the strategic research priorities.

The remainder of the government's funding support for research and development, representing the majority of it (in particular the R&D tax incentive), is not directly allocated to national research priorities.

Possible reform directions – medium-term priorities

- Australia's strategic research priorities should be further refined so that they make available funding to sufficiently specific areas so as to effectively prioritise research and achieve a critical mass of research effort.
- Research should be targeted to Australia's comparative advantages; accordingly the ARC Strategic Research Priority associated with 'lifting productivity and growth' should be used to fund research in areas where Australia has a comparative advantage.
  - » This is the most direct means of targeting Australia's limited funding support for research and development, and in driving economic growth.
  - » Support for delivering the skills relevant for the new economy is best delivered through means other than research and development.
- The tax white paper should consider how best to align Australia's research and development efforts to areas in which Australia has a current, or nascent, source of comparative advantage.

9. Reform horizons

Not all of these recommendations and actions can be accomplished at once. They need to be implemented in a phased approach. Governments first need to correct existing barriers to a more innovative and competitive economy – such as numerous examples of poor regulation. They also need to start building capacity for reform through important institutional initiatives such as introducing national productivity payments.

Once this has been done, governments need to lay the foundation for a decade-long structural reform agenda by, for example, commencing tax reform, implementing reforms to the federation and putting in place reforms to competition policy that recognise global market dynamics.

The National Competitiveness and Investment Agenda should outline three reform horizons, as suggested in the following exhibit.

Exhibit 7: Reform horizons

Within six months	Within 12 to 24 months	Within five years
• Use the National Industry Investment and Competitiveness Agenda to set direction • Implement governance arrangements for sector approach • Develop economy-wide understanding of sectors • Start developing sector strategies, particularly for mining, agriculture and energy • Implement Entrepreneurs' Infrastructure Program • Review migration settings • Start publishing Foreign Investment Review Board decisions online • Prioritise second repeal day to remove barriers to competition • Commonwealth and states to agree on reforms to major project planning approvals • Restore VET as a national priority • Task the federation white paper to examine VET roles and responsibilities • Commence rolling reviews of cumulative regulatory barriers	• Implement sector strategies for agriculture, mining and energy sectors • Commence programs based on PTech models • Complete FTA with China, commence negotiations with Taiwan and Hong Kong • Lift FIRB threshold to $1.1b for all nations • Release federation white paper • Make amendments to the Competition and Consumer Act • Commence reforms to major project planning approvals • Introduce computer-coding subjects into schools • Make sector-specific labour market reforms • Develop population strategy • Complete tax white paper, commence reform • Ensure science, technology, engineering and mathematics subjects are taught by subject specialists • Make Year 12 maths a prerequisite for teacher education • Refine strategic research priorities to better prioritise research funding • Rebalance research effort to be industry led	• Continue rolling reviews of cumulative regulatory barriers • Align strategic research priorities with comparative advantages • Make broad labour market reforms • Implement national tax reform • Continually refresh sector strategies to reflect the changing global environment

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Business Council of Australia
42/120 Collins Street Melbourne 3000
T 03 8664 2664 | **F** 03 8664 2666 | www.bca.com.au