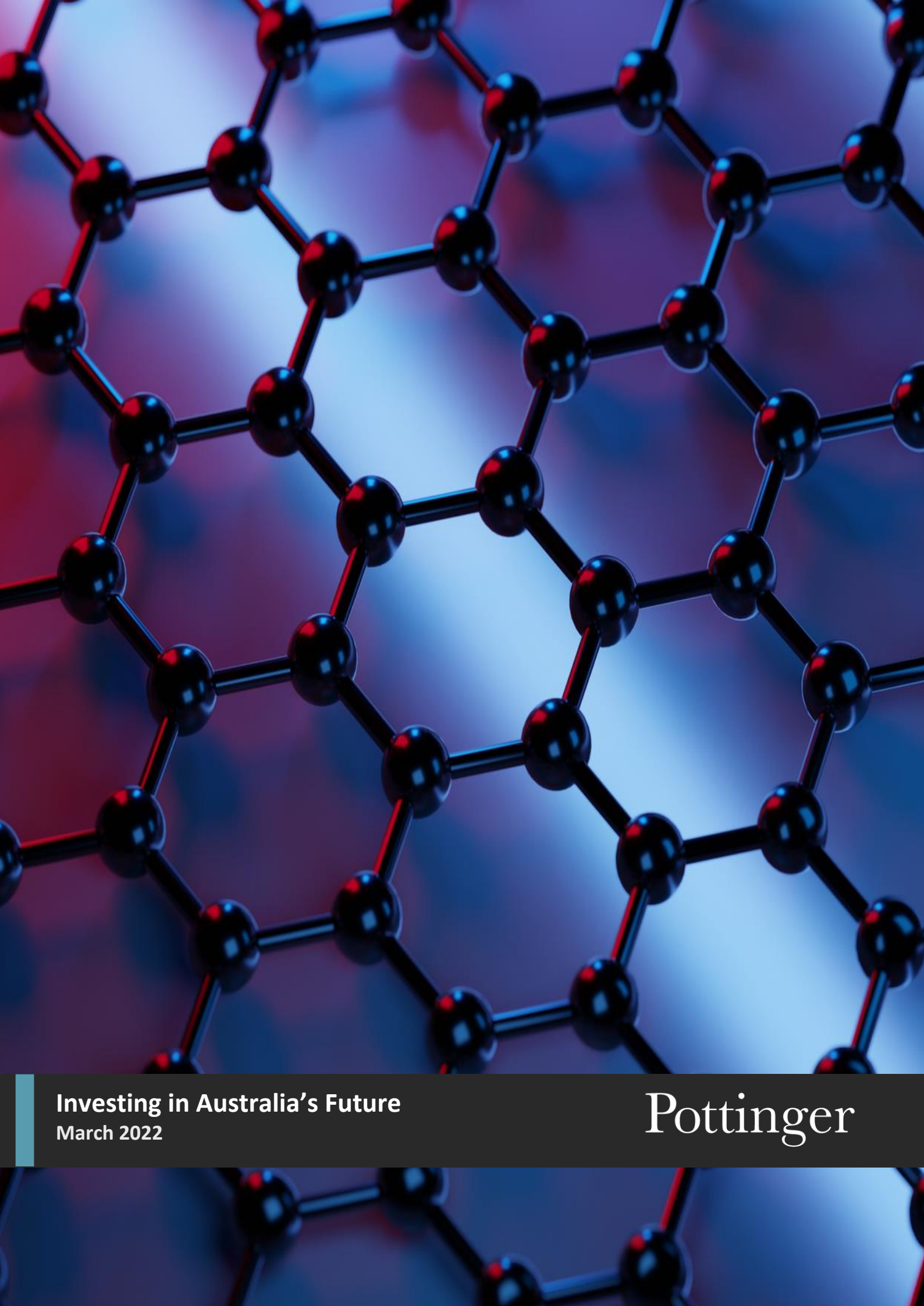

# Investing in Australia's Future

March 2022

Pottinger

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## Contents

# 1. Australia's investment challenge

## 1.1 Introduction and context

This report provides commercial perspective on inbound and outbound investment activity involving Australia, supported by quantitative and qualitative evidence. Commissioned by the Business Council of Australia in November 2021 with a focus on considering the potential factors that may be driving falling fixed capital formation, our aim has been to supplement existing macro-economic analysis and provide front-line perspective from within Australia and offshore.

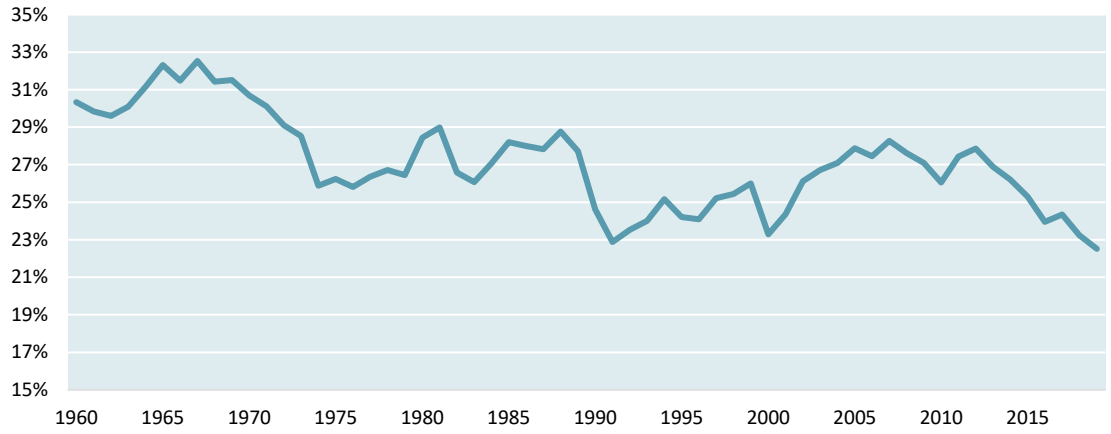
The views expressed herein are those of Pottinger, having undertaken desktop analysis and research commensurate with the timeline of the project and its objectives. Our perspectives are also based in part on deep background research into long-term drivers of global economic development (see for example our white paper The Future of Society[1]), and ongoing collaboration with leading scientific and economic thinkers, including the Club of Rome's Earth4All project.

In developing our report, we consulted with senior leaders from Australia's business community, international professional investors and Australian entrepreneurs at home and abroad. Our brief was to provide a snapshot of current issues, rather than to undertake extensive, ground-up quantitative analysis. We warmly welcome discussion and feedback.

## 1.2 Australia today

Measured by headline GDP growth, Australia has been one of the stand-out performers in the developed world for many years. This success derives, in part, from successful exploitation of the country's natural resources, and has also been supported by the contribution of immigration to population growth. Economic growth has been enabled by significant capital investment, which grew strongly from just over US$50bn in 1980 to just under US$300bn in 2013. Nevertheless, although gross fixed capital formation has been strong, the proportion of this investment to GDP has declined significantly over the last decade, reaching the lowest level observed in 60 years in 2019, as illustrated below.

**Figure 1: Investment in Australia as a percentage of GDP**




*Source: OECD data at https://data.oecd.org/gdp/investment-gfcf.htm and https://data.oecd.org/gdp/gross-domestic-product-gdp.htm#indicator-chart.*

[1] The Future of Society, Prof Jorgen Randers and Nigel Lake, 2018 at this link

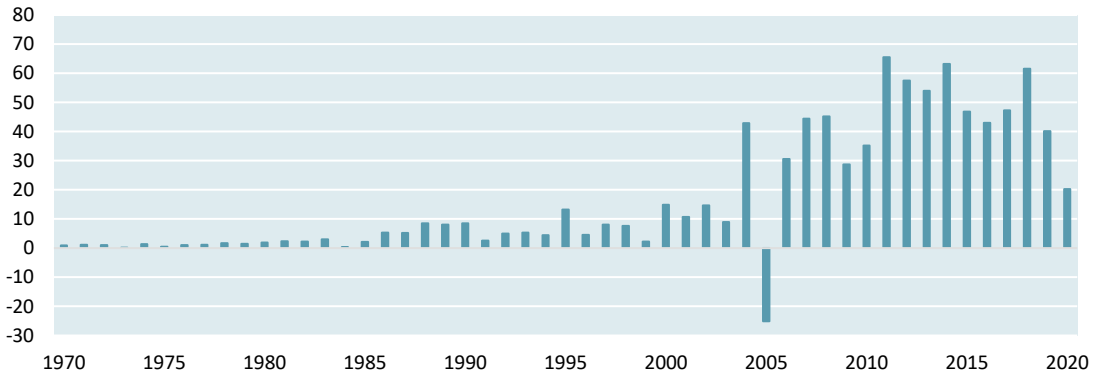
This decline raises important questions related to the outlook for the Australian economy:

- Is this decline in fixed capital formation particular to Australia, or does it reflect international trends driven by the nature of economic development?
- Are issues related to declining domestic fixed capital formation in some way offset by growing offshore investment, including by Australia's growing domestic superannuation sector?
- Does this reduction in fixed capital formation imply a weakening economic outlook?

Australia has also been successful in attracting significant foreign direct investment, ie cross-border investments that give rise to control or a significant degree of influence[2] on the management of an enterprise resident in Australia. As illustrated below, foreign direct investment averaged around US$10bn per year for the decade from 1995, and then nearly tripled to around US$30bn in the mid-2000s, in part due to increased inbound investment from Asian countries.

Foreign direct investment has been particularly strong over the last decade, peaking at around US$66bn in 2011, as illustrated below.

**Figure 2: Net capital inflow over time – Foreign Direct Investment[3] (US$bn)**




*Source: https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?end=2019&locations=AU&start=1970&view=chart. 2020 data from https://tradingeconomics.com/australia/foreign-direct-investment. FX rates from CapIQ.*

Australia has had positive net capital inflows since the 1970s, with the exception of 2005, which resulted from the relocation of News Corp's headquarters to the United States. In 2020, net capital inflows slowed to the lowest level in over a decade, and indeed have been on a downward trend for much of this period. This suggests that, despite the ongoing growth of the Australian economy, it is attracting less global capital than previously. In the current year, current inbound M&A volumes are consistent with foreign direct investment of over A$30bn, a significant improvement on 2020 but still continuing the longer term downward trend.

## 1.3 Inbound and outbound M&A

A substantial part of this foreign direct investment is the acquisition of Australian businesses by offshore acquirors. Net inflows over time depend on whether profits are reinvested in Australia or repatriated. The amount and source of debt used to finance these transactions also has an effect, since the eventual repayment of debt to foreign lenders constitutes a form of outflow.

As illustrated below, inbound M&A has been roughly equivalent to foreign direct investment over the last 15 years, suggesting that most foreign investment is the result of acquisition of

[2] IE ownership of 10% or more of the ordinary shares of voting stock
[3] FDI net inflows are the value of inward direct investment made by non-resident investors in the reporting economy, including reinvested earnings and intra-company loans, net of repatriation of capital and repayment of loans.

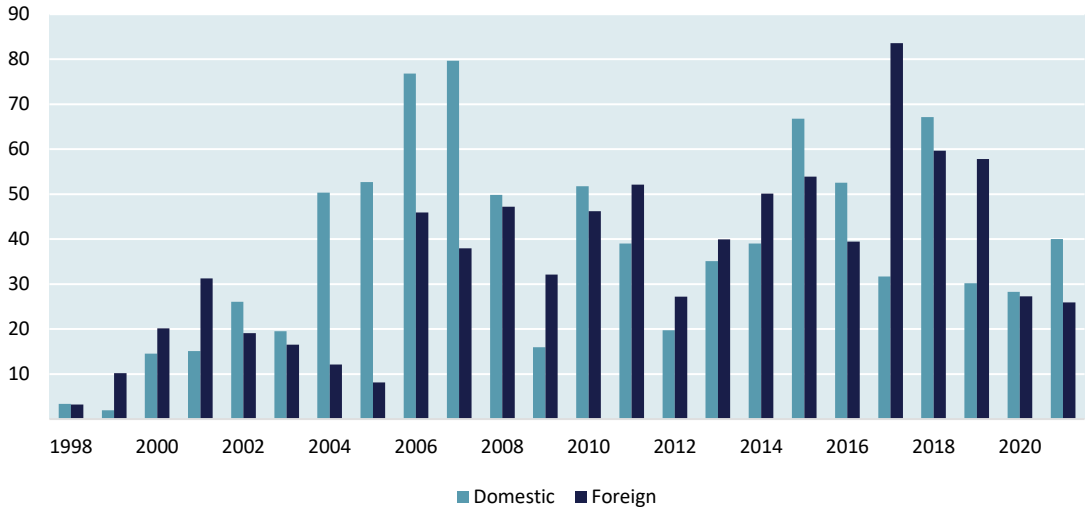
existing businesses, rather than investment into new fixed capital formation. From our own experience, offshore acquirors prefer to acquire substantial existing businesses rather than build new projects, as this will typically deliver more rapid results with lower risk.

**Figure 3: Value of inbound M&A as proportion of total foreign direct investment**


*Source: https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?end=2019&locations=AU&start=1970&view=chart. Pottinger analysis of Mergermarket data up to 16 Nov 2021. Acquisitions of Australian targets from global buyers between 1998 and 2021 across all industries. Only deals completed by foreign buyers, where transaction value is disclosed are included. CapIQ for historical FX rates.*

M&A activity is frequently cyclical, as it is driven both by capital market conditions and business confidence in the economic outlook. As shown below, the period from 2017 to 2019 saw record levels of inbound M&A activity, ie where foreign companies acquire Australian businesses.

**Figure 4: Value of completed M&A – Australian targets acquired by domestic and foreign buyers (A$bn)**




*Source: Pottinger analysis of Mergermarket data up to 16 Nov 2021. Acquisitions of Australian targets from global buyers (including Australia) between 1998 and 2021 across all industries. Only deals where transaction value is disclosed are included.*

Activity levels have remained relatively high in 2021 – if announced transactions are taken into account, we are heading for a record year. Up to 16th November 2021, a total of 185 transactions completed in 2021 with a total value of c. A$66bn. In addition, a further 190[4] transactions have been announced with a combined transaction value of c. A$272bn. Of the latter, around A$98bn are bids by foreign acquirors (compared with the record c. A$94bn recorded in 2017). Even if only a portion of these transactions complete, we are likely heading for record M&A activity levels in 2021 and 2022 for both domestic and inbound M&A. This will, in turn, boost the level of foreign investment into Australia significantly, albeit once again through the acquisition of businesses rather than through investment into new fixed capital formation.

[4] Only includes transactions announced during 2021

Following the financial crisis, outbound M&A levels slowed significantly, falling to around half the value of inbound M&A for nearly a decade. Since 2018, however, offshore investment has accelerated, averaging around 1.5x the value of inbound M&A, thus suggesting that M&A activity is driving a net export of capital from Australia.

**Figure 5: Value of outbound M&A activity as a proportion of inbound M&A**


*Source: Pottinger analysis of Mergermarket data up to 16th November 2021. Acquisitions by Australian buyers of foreign companies divided by acquisitions of Australian targets by foreign buyers between 1998 and 2021 across all industries. Only deals where transaction value is disclosed are included.*

Outbound M&A has been concentrated in sectors such as consumer staples, property and utilities – ie traditional industries. It is notable that seven of the ten largest transactions were completed by Australian-based infrastructure investors MIRA and IFM, as shown below.

**Figure 6: Top 5 outbound M&A transactions in the last five years**

| Value | Target | Acquiror | Completion date |
|---|---|---|---|
| **A$19.3bn** | Cadent Gas | MIRA | March 2017 |
| **A$14.6bn** | Buckeye Partners | IFM Investors | November 2019 |
| **A$9.1bn** | Bemis | Amcor | June 2019 |
| **A$5.8bn** | Currenta GmbH | MIRA | November 2019 |
| **A$4.6bn** | Cincinnati Bel | MIRA | September 2021 |
| **A$4.6bn** | Jacobs Engineering Group | WorleyParsons | April 2019 |
| **A$4.2bn** | OHL Concesiones | IFM Investors | April 2018 |
| **A$3.9bn** | Green Investment Group | MIRA | August 2017 |
| **A$3.7bn** | DaeSung Industrial Gases | Macquarie Group Limited | February 2020 |
| **A$3.4bn** | Headwaters | Boral | May 2017 |

*Source: Pottinger analysis of Mergermarket data up to 16 Nov 2021. Acquisitions by Australian buyers of foreign companies between 2016 and 2021 across all industries. Only deals where transaction value is disclosed are included.*

Foreign economies had a total of A$4.0 trillion invested in Australia at the end of 2020. The United States and United Kingdom are the biggest investors in Australia, followed by Belgium (reflecting the size of its funds industry), Japan and Hong Kong. China is now Australia's sixth largest direct investor, with investment growing by a CAGR of 13% since 2010[5].

[5] https://www.austrade.gov.au/news/economic-analysis/who-invests-in-australia-analysing-2020-s-4-trillion-record-for-foreign-investment

# 2. Three simultaneous industrial revolutions

## 2.1 Introduction

In considering the challenges and opportunities that currently confront Australia, it is important to recognise that they reflect the impact of three simultaneous industrial revolutions that are now underway. Whilst the precise nature and pace of these is impacted to some degree by local market conditions and national policies, the technological drivers are global in nature and the underlying economic forces will continue to drive substantial shifts that impact almost every business and every individual Australian's day to day life. We outline these briefly below.

## 2.2 The renewable energy revolution and electrification of transport

In many locations, it is now cheaper to generate energy from renewable sources than from fossil fuels. In addition, sources such as solar PV and wind energy can be deployed cost-effectively at small scale, allowing generation to be localised and substantial elements of distribution and transmission systems avoided entirely. Meanwhile, distributed generation and battery storage have become a cost-effective alternative to relying on large-scale standby power generation, and large-scale network-attached batteries are providing cost-effective time-shifting of power delivery. In addition, there is also growing focus on the potential to use low-cost renewable energy to manufacture hydrogen in Australia, for use in heavy transport applications.

In reflecting on the increased prevalence of renewable energy generation in the mining sector, Derek La Ferla, Chairman of Sandfire Resources since May 2010, comments: "*There has been a marked shift from an interim position on [the need to replace] fossil fuels (for example on Sandfire's Degrussa Project) to the wholesale strategic shift shown by some of the larger mining companies in relation to hydrogen*".

Similar technological shifts are also driving the electrification of personal motor transport, with electric vehicles becoming increasingly cost-competitive with traditional internal combustion-engine ("ICE") vehicles, as well as offering functionality that they cannot easily match. Whilst up-front costs of these vehicles remain high, consumers are beginning to understand that day to day running costs and servicing costs are substantially lower than fossil fuel vehicles, making the total cost of ownership increasingly attractive.

One common feature of both renewable energy generation and electric vehicles is that a greater proportion of overall lifetime costs are embedded in the up-front cost of the power system and vehicle, with ongoing running costs greatly reduced. Where capital equipment is imported, this effectively shifts economic activity associated with energy generation and transport offshore, adding to capital outflows from Australia.

Meanwhile, these rapid changes are creating significant opportunities for companies that are creating new supporting technologies, with examples including Tritium, which provides fast-chargers for EVs and Calix, which provides a low-cost solution for decarbonising cement production. Tritium is currently in the process of listing on NASDAQ by way of a SPAC structure, and Calix has recently completed a capital raising for its LEILAC technology from Carbon Direct, a specialist decarbonisation investor based in New York.

In both cases, although the technology has been developed by companies based in Australia, the vast majority of the opportunity for deployment of the technology is in overseas markets. Both technologies enable the construction of critical infrastructure, the inherent value of which will be substantially higher than the cost of securing the technology from these businesses. Thus, whilst much of the economic profit associated with these companies can accrue to Australian investors, the vast majority of fixed capital formation will take place offshore.

## 2.3 The Robot Revolution – the automation of decision-making

Profound economic changes have occurred over the last fifty years due to the progressive automation of manufacturing, with many blue-collar jobs displaced by machines. Though it has been popular in some quarters to blame this hollowing out of employment opportunities in industrial heartlands on foreign competitors, the practical reality in many developed economies is that many domestic jobs have simply been automated[6].

These shifts have been enormously painful for the regions that have been affected, including previous industrial heartlands in the UK, the USA and various other countries. In contrast, countries that have been successful in providing the *equipment* needed to implement robotisation – such as Germany and Japan – have benefited strongly from these shifts.

Over the next several decades, increasingly sophisticated software will automate many elements of the tertiary economy, including both clerical and administrative activities, as well as more sophisticated oversight and management roles. These range from steps as simple as the replacement of checkout staff with self-checkout systems to much more sophisticated applications. These trends are well established – as one example, an Oxford University study[7] published in 2013 identified that 47% of US employment was already at risk from existing technology. Whilst this creates risk for all economies, there is also substantial opportunity. It is helpful to think of this as a transition of employment into a new "quaternary" sector of the economy, just as in previous technological revolutions the bulk of employed transitioned from the primary sector to the secondary sector, and then to the tertiary sector.

Just as automation of manufacturing has helped to concentrate both economic activity and employment opportunity in the hands of companies and countries that have led these shifts, so too will the Robot Revolution. Local jobs will be replaced by software that is licensed, typically from companies in the USA. This will eliminate local jobs and contribute to erosion of employment opportunities, whilst simultaneously shifting economic benefits offshore. These developments are already beginning to have profound effects on many economies, impacting economic performance and prospectively leading to rising social tension[8].

These shifts will further increase the gap between countries that are successful in creating and scaling the new technologies that are required, and those that are not. This is a particular challenge for Australia, as in comparison to countries such as the USA and China, it is a small market with a modest pool of entrepreneurial talent and a paucity of venture capital required to launch and scale such businesses. Nevertheless, Australia is also a particularly attractive environment in which to live and work, with its major cities regularly featuring in international rankings of the most liveable cities in the world.

As Atlassian and Canva both demonstrate, and companies such as Cochlear and CSL have done in the past, Australia can benefit from the growth of software and other IP-rich businesses, so long as such businesses are formed domestically, and so long as a significant proportion of the underlying employment opportunities they create and wealth that they generate can be retained in Australia. This emphasises the critical importance of ensuring that the Australian workforce has the right skills, and that key employees can readily be recruited from offshore.

Relative to its share of the global economy, Australia is currently performing well in the creation of new unicorn businesses (privately owned companies with a value over US$1bn), although we note that a single company accounts for around 80% of this value.

[6] See *The War On Normal People*, Andrew Yang, 2020
[7] The Future Of Employment: How Susceptible Are Jobs To Computerisation?, Carl Benedikt Frey & Michael A Osborne (see link)
[8] For further context, see The Future of Society, Nigel Lake and Jorgen Randers (see link)

## 2.4 The bioeconomy revolution

The third area of development relates to improving environmental and ecological sustainability in a variety of closely inter-related areas, including:

- **Biofuels**, particularly for use in aviation and possibly shipping (we anticipate that most passenger vehicles and a significant proportion of rail transport will primarily use electric power, with green hydrogen a logical solution for other modes of transport);
- **Bioplastics**, ie primarily polyethylene manufactured from eg bioethanol, supplemented by new technologies to address the substantial negative ecological impact of plastic pollution of land, waterways and oceans;
- **Animal-free proteins**, manufactured primarily from plant and/or mushroom-based sources, supplemented by cell-based processes for some applications; and
- **Regenerative agriculture**, ie adapting agricultural practices to increase soil carbon capture and reduce chemical and other run-off.

**Both biofuels and bioplastics** offer potential for substantial fixed capital formation, as they will require significant investment in industrial infrastructure, as well as large increases in agricultural production and associated transport and processing infrastructure. Meaningful policy support is likely to be required, however, to give the various stakeholders involved the confidence to make these substantial investments before a market has been established.

In parallel, there is rapidly increasing demand for **animal-free proteins**. There are a several drivers of this, including, growing consumer advocacy related to the treatment of animals, health reasons, concerns linked to the high environmental footprint of meat and dairy products, ecological risks linked to the downstream effects of meat production and lifestyle benefits, including general wellness benefits from consuming less red meat.

Looking ahead, the bioeconomy offers significant opportunity for Australia given its capacity to increase agricultural output – and to add value to that output by creating end-products for consumers rather than simply exporting unrefined bulk commodities. As with software businesses, it is possible for the substantial majority of value created to remain in Australia whilst the large majority of fixed capital formation (ie construction of manufacturing facilities) takes place offshore.

Unlike software companies, which are frequently capital-lite in nature and which can thus reach global scale with no to modest external investment, biotechnology businesses such as v2food and Change Foods are relatively capital-intensive in the early stages. This reflects the need for investment in "hard science", laboratory facilities, test production facilities, and regulatory and other approvals. As a result, the retention of value in Australia is significantly more dependent on the availability of investment capital in Australia than with businesses that are more capital-lite in nature. Although there is a growing pool of such investment available in Australia, it remains relatively less attractive for raising capital, as:

- The volume of capital accessible in the US and China (and to a lesser extent Europe) is enormously greater than in Australia;
- The financial terms on offer are typically significantly more attractive (valuations can be 50% to 100% or more higher); and
- In at least some cases, offshore investors move more quickly and are more flexible on terms, allowing investment rounds to be closed more nimbly than is possible in Australia.

We emphasise that attractive investment rounds *are* being closed by start-ups in Australia. Nevertheless, our experience remains that access to capital remains a barrier for some companies, particularly compared to their peers in the USA and China.

## 2.5 Near term implications

These technology-led industrial revolutions provide important context to the shifts in investors' focus that have been seen over the last several decades, as economies transition from what are frequently called old economy industries to new economy activities. By way of brief summary:

- Renewable energy generation has become an infrastructure asset class, attracting large amounts of capital seeking relatively low returns, which in turn is enabling businesses and communities to accelerate their transition to renewable energy whilst simultaneously reducing ongoing operating costs. We emphasise that the economics of these investments are highly attractive to many investors, and as a result there is significant opportunity for fixed capital formation in this area in Australia without any need for government subsidy. As we outline later in this document, ongoing policy uncertainty at a Federal level continues to act as a limiting factor on inward investment;
- Businesses that offer workplace automation software delivered via a capital-lite business model (ie "as-a-service" technology businesses) have achieved extremely high valuation multiples, reflecting their critical role in delivering ongoing productivity improvements and thus their substantial long-term growth potential. This said, the nature of the businesses means that there is relatively little need for fixed capital formation per se – what is needed is capital that has a high enough appetite for risk and which can move as quickly as competing sources of funding, particularly from the USA; and
- The bioeconomy offers substantial opportunity for fixed capital formation – but access to capital for the agricultural sector remains limited in Australia. In addition, in some areas significant policy support will be required, as the formation of new industries and new supply chains will require extensive collaboration and trust between growers, industrial processing companies and end-users, none of whom are well-placed to take on all the underlying commercial risks alone.

These developments also illustrate that in several areas of major opportunity, significant numbers of new jobs can be created, and substantial wealth generated, without the need for substantial fixed capital formation. Whether these new capital-lite industries expand rapidly in Australia, however, depends on several factors, including:

- Whether the relevant start-ups and scale-ups can access early-stage risk capital that they do need quickly enough and on attractive enough terms;
- Whether they have ready access to the human talent required to build the companies, both from the onshore talent pool and through being able to recruit relevant employees from offshore to work in Australia;
- Whether there is a supportive environment for the commercialisation and ongoing development of intellectual property, including both policy support in the form of R&D incentives, as well as early customer uptake of new products and services; and
- Whether, once businesses reach scale, sufficient core activities and employment opportunities are retained onshore, in order to support the continued development of local business, employment and investment ecosystems.

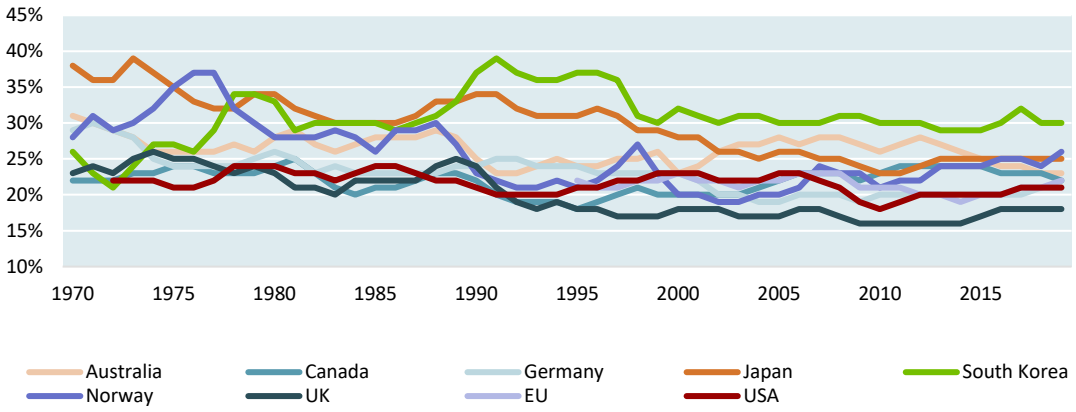
These three technology-led industrial revolutions are prompting governments to consider fundamental shifts in policy that are designed to protect local economies and address the ongoing implications of significant productivity improvements. Amongst other things, these measures are designed to return a greater proportion of manufacturing onshore. In part, this is underpinned by the logic, as manufacturing becomes increasingly automated, that wage costs are of declining relevance to overall economics. Governments and companies have also been motivated by increasing supply chain resilience.

# 3. Australia in a global context

## 3.1 Fixed capital formation

The technological revolutions outlined in the previous chapter are impacting every nation, albeit in different ways depending on their stage of development and the extent to which countries have been successful in building "economies of the future". By way of comparison, the chart below shows investment as a proportion of GDP for various comparator nations:

Figure 7: Investment (gross fixed capital formation) as a proportion of GDP



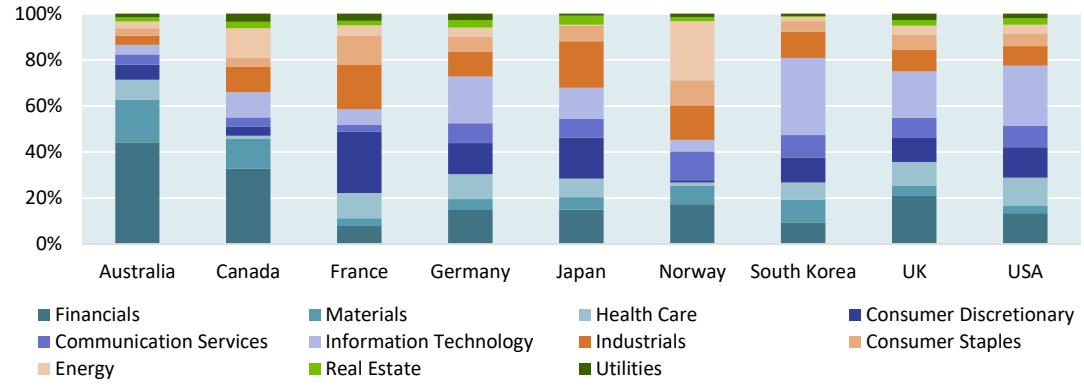

*Source: OECD data at https://data.oecd.org/gdp/investment-gfcf.htm and https://data.oecd.org/gdp/gross-domestic-product-gdp.htm#indicator-chart.*

As shown above, there is a common thread across the developed world where investment as a proportion of GDP has dropped substantially over time, reflecting in part a transition into more capital-lite businesses. Throughout this period, the USA has had relatively low investment as a proportion of GDP, averaging a little over 20%. Meanwhile, the notable exception is South Korea, where fixed capital formation has remained stable over the last two decades at around 30% of GDP. Both these economies have grown strongly over this period, illustrating that fixed capital formation per se is not necessarily critical to economic growth.

## 3.2 Economic growth and the Australian stock market

The Australian stock market is dramatically more concentrated in financials and materials (including resources) than other large stock exchanges. In contrast, the domestic industrial sector is smaller than on any other major stock exchange, as illustrated below.

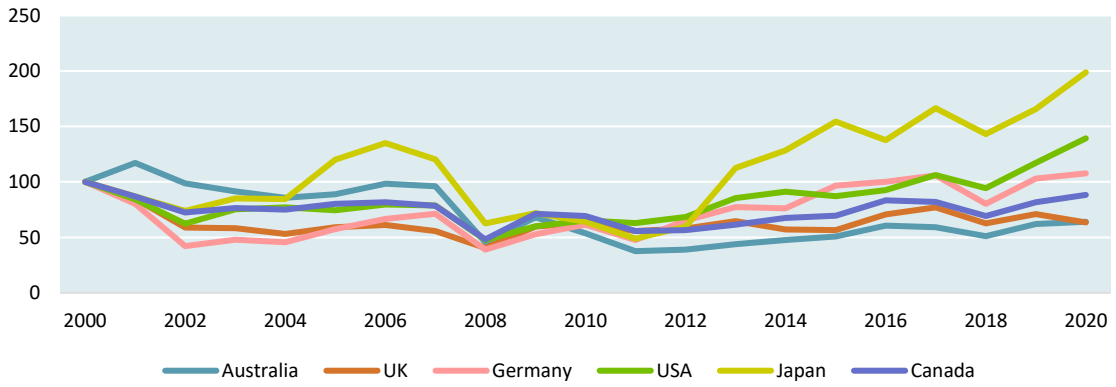
Figure 8: Market capitalisation of global exchanges by sector (A$bn)




*Source: CapIQ, as at 16th November 2021. Based on each country's major exchange. The USA includes NASDAQ and NYSE.*

In other words, Australia's stock market is significantly more skewed towards long-established industries that are typically lower growth than other major stock markets. Given this concentration, it is perhaps unsurprising that Australia's stock market has performed poorly compared to other major stock markets. Other than the FTSE 100 index, Australia's stock market has been the worst performer over the last decade.

Figure 9: Index value/nominal GDP (USD). December 2000 = 100



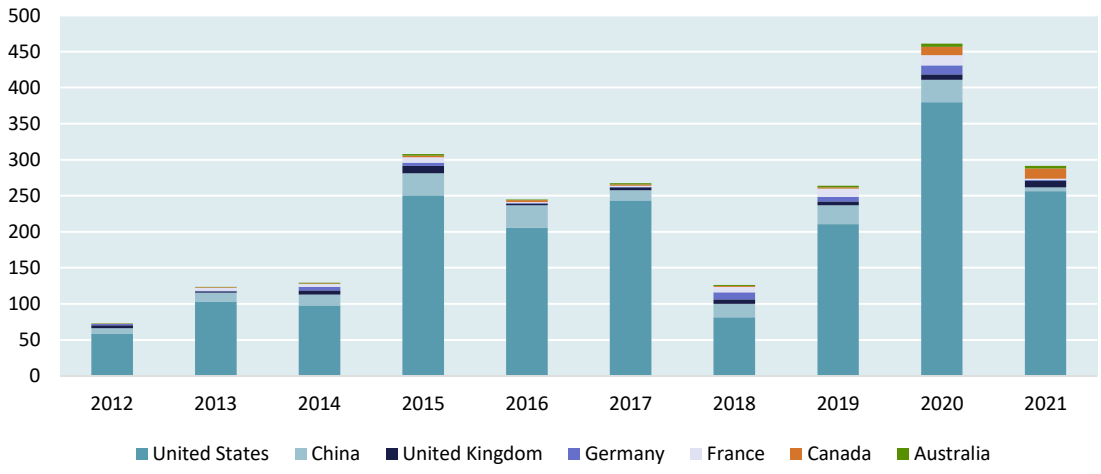

*Source: Pottinger analysis. CapIQ, as at 16 Nov 2021. GDP data: https://data.oecd.org/gdp/gross-domestic-product-gdp.htm#indicator-chart.*

Australia and the UK are the weakest performing markets on this basis. In the case of Australia, GDP growth outpaced stock market growth by 56% over the last twenty years, suggesting a disconnect between the inherent strength of the domestic economy and the value being captured by ASX-listed companies. One reason for this may be that that a growing proportion of that value is being captured by offshore companies. Meanwhile, the solution for investors seeking better returns – whether these are institutional investors or individuals via their superannuation funds – is to invest in other asset classes, or to invest offshore.

## 3.3 The tech boom and its implications for Australia

Over the last decade, the value of tech IPOs on major Western stock exchanges has increased significantly, peaking at just over A$450bn in 2020. As illustrated below, around US$380bn or 81% of these IPOs by value were on US stock exchanges.

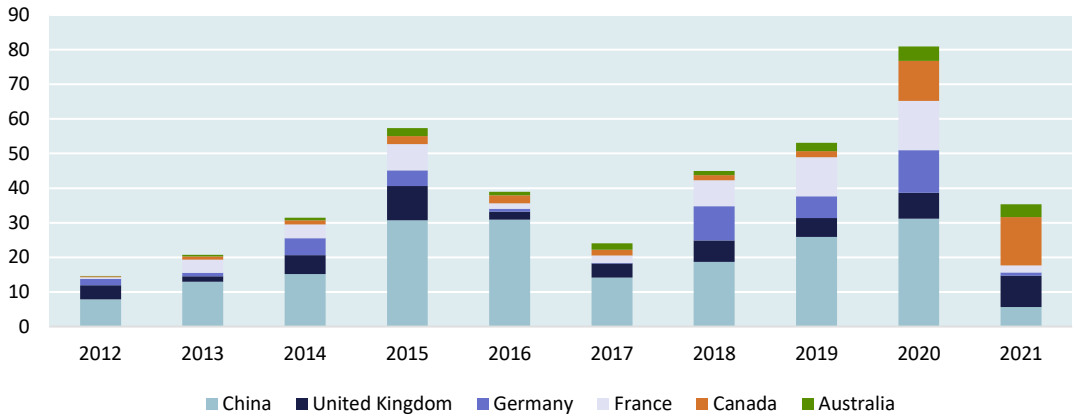
Figure 10: Value of tech IPOs on major stock exchanges (A$bn)




*Source: Pottinger analysis. CapIQ, as at 16th November 2021. Global Information Technology IPOs between 2012 and 2021.*

Outside the USA, Chinese stock exchanges have accounted for around 46% of the value of all tech IPOs over the last decade, as illustrated below.

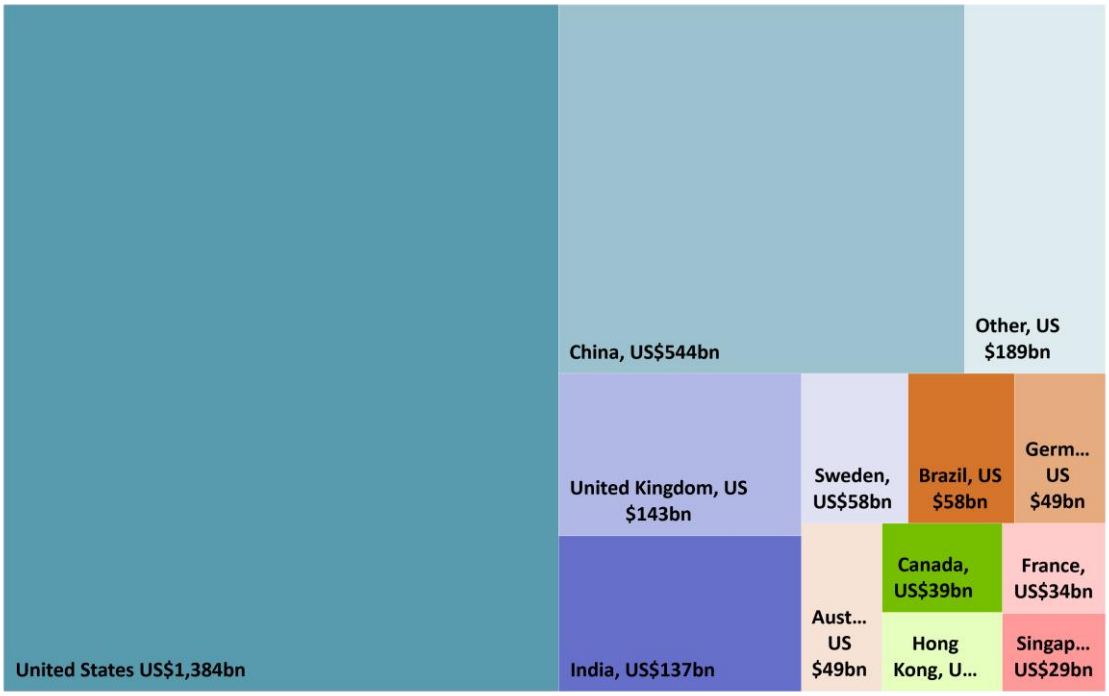
Figure 11: Value of Global tech IPOs on major stock exchanges excluding USA (A$bn)




*Source: Pottinger analysis. CapIQ, as at 16th November 2021.*

Similar trends are evident amongst privately owned businesses too. Most unicorns (privately-owned businesses valued at more than US$1bn) are also located in either the USA or China. The chart below shows the composition by value of all 848 unicorn business, as identified by CB Insights as at 30th September 2021.

Figure 12: Global unicorn private businesses valued at US$1bn+ (as of September 30th, 2021)




*Source: https://www.cbinsights.com/research-unicorn-companies.*

The above businesses have a combined value of approximately US$2,700bn. Of these, six companies with a combined value of US$49bn or 1.7% are based in Australia. This is a little higher than Australia's share of world GDP of 1.0%, so on this metric Australia could be said to be punching above its weight, although we note that almost 80% of this value is accounted for by a single company, Canva.

## 3.4 What are the implications for ongoing investment flows?

The analysis set out above illustrates the links between ongoing investment flows into and out of Australia and our underlying thesis that three substantial technological revolutions are reshaping the Australian economy and creating both significant opportunity and significant risk. Whilst these issues are equally relevant to almost every other country, and the opportunities are easy to identify, building new businesses in Australia will remain challenging for a variety of reasons, including:

- Access to early-stage venture capital to support the early development of such companies;
- Access to the talent pool required to create and commercialise intellectual property;
- Access to early customers, given the small size of the domestic market; and
- The relative commercial and cultural isolation of Australia.

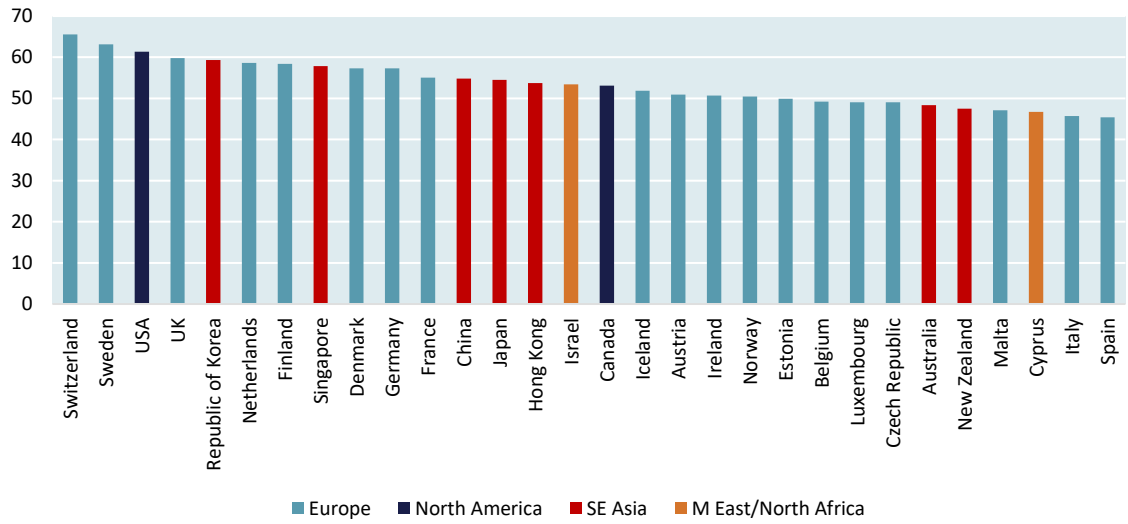
The importance of this last point should not be underestimated. Australian entrepreneurs that have emigrated to countries such as the USA to build businesses frequently comment on the significant cultural differences between Australia and those markets.

The data also suggests that fixed capital formation is not, of itself, necessarily a critical enabler of long-term economic success, particularly as economies transition towards the capital-lite businesses that are a feature of the quaternary sector. Much more important is the type of fixed capital formation that occurs.

## 3.5 Innovation and economic development

The Global Innovation Index is an annual ranking of countries by their capacity for, and success in, innovation. Given the technological revolutions under way, and significant implications for individual businesses, industry sectors and society at large, we see this as a meaningful forward-looking indicator of success. Australia ranks 25th on this metric, well behind other leading economies, including other countries in South-East Asia.

Figure 13: World Intellectual Property Organization – Global Innovation Index 2021




*Source: WIPO 2020 report https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021.pdf.*

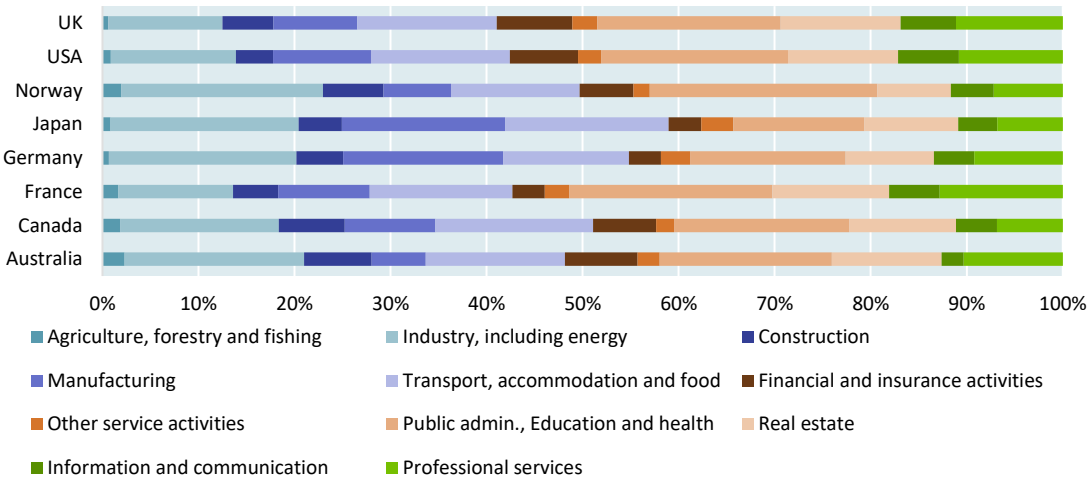
Whilst such measures are imperfect in nature, other economies ranked similarly to Australia are not resource intensive. Australia also ranks weakly on other relevant metrics, such as the Harvard Atlas of Economic Complexity and the Global Green Economy Index™.

# 4. The Australian business sector

## 4.1 Composition of the Australian business sector

Compared to other leading countries, Australia's economy is weighted towards primary industry, ie resources (included under "Industry" below) and agriculture. Meanwhile, the secondary sector (manufacturing below) is small. Combined with a relatively heavy weighting in both property and financial services, this means that the country's tertiary sector is relatively small. Put simply, the Australian economy is relatively heavily geared to lower growth sectors.

Figure 14: Distribution of GDP across sectors (2020)



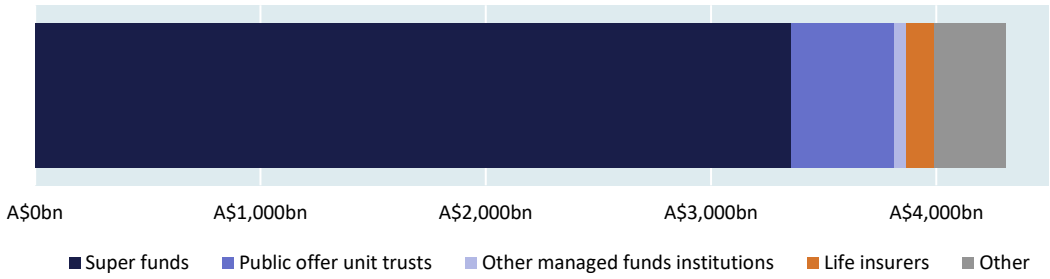

*Source: Pottinger analysis of OECD data. https://stats.oecd.org/index.aspx?queryid=60702#.*

Although the services sector is still the largest overall, a substantial part of it is weighted towards old-economy activities, with a relatively modest component in areas such as professional and technical services, health care, IT/technology, education/training and arts/culture.

## 4.2 Composition of the Australian investment sector

Thanks to its compulsory superannuation regime, Australia is home to one of the largest pools of managed funds globally. As illustrated below, at 30th June 2021 this amounted to just over A$4,300bn, of which superannuation balances accounted for 78%.

Figure 15: Composition of Australian managed funds industry, 30th June 2021

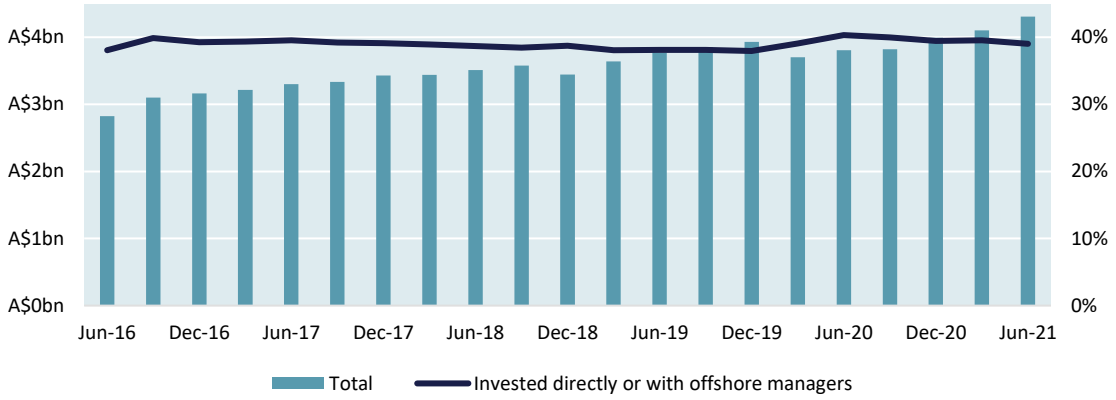



*Source: ABS https://www.abs.gov.au/statistics/economy/finance/managed-funds-australia/latest-release.*

Superannuation funds continue to grow strongly, contributing to overall growth in funds under management in the industry of just over 50% over the last five years (a CAGR of 8.8% a year).

Thus, the nation's financial savings have been growing materially more rapidly than the economy as a whole. Meanwhile, as illustrated below, the proportion of these assets invested directly or placed with offshore managers (irrespective of where the underlying investments are located) has remained roughly constant at around 40%.

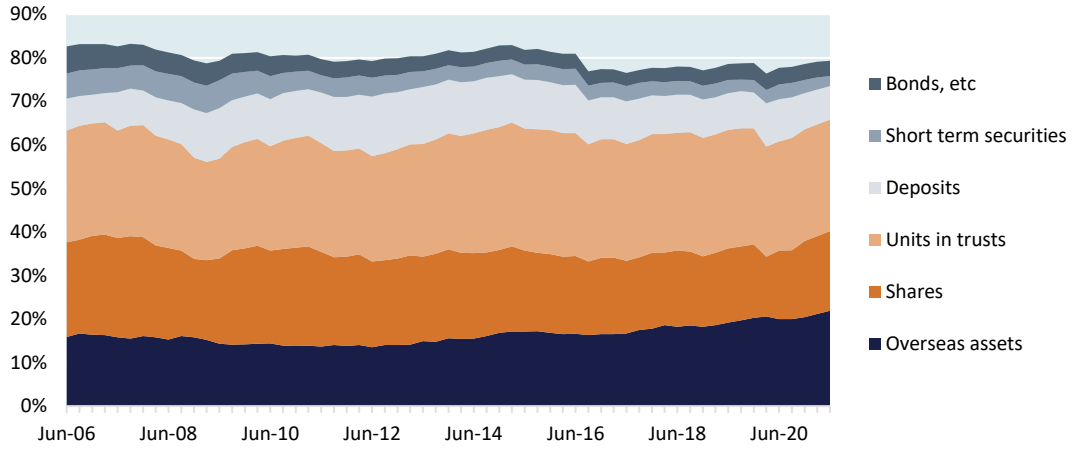
Figure 16: Composition of Australian managed funds industry, 30th June 2021




*Source: ABS https://www.abs.gov.au/statistics/economy/finance/managed-funds-australia/latest-release.*

Over the last decade, the proportion of assets invested offshore has increased 60%, from a low of 13.7% in June 2011 to a high of 21.9% at June 2021, as illustrated below.

Figure 17: Composition of Australian managed funds industry by type of investment




*Source: ABS https://www.abs.gov.au/statistics/economy/finance/managed-funds-australia/latest-release.*

Ultimately, the funds accumulated in Australia's funds management sector represent part of the nation's collective savings derived from the strong performance of the Australian economy over the last several decades. With many new economy opportunities being intrinsically capital-lite in nature, it is logical for investors to diversity both risk and opportunity by investing a material and growing proportion of this capital outside Australia.

Other than the ongoing challenges faced by Australian start-ups in accessing both early stage and growth stage capital, in our experience most large business have ready access to capital, particularly if they are listed – in other words the increasing amount of capital being invested offshore does not appear to be limiting access to capital at home.

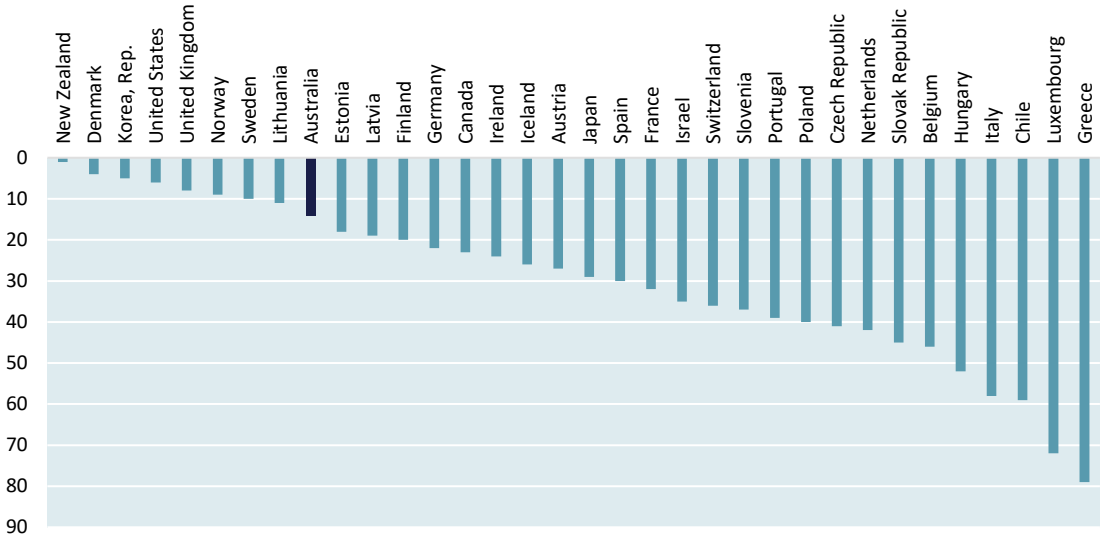
# 5. The view from offshore

## 5.1 Attractions and challenges

Historically, Australia has been the 14th largest destination[9] for foreign direct investment globally, broadly commensurate with its GDP. As outlined earlier in this report, Australia continues to be a popular market for inward investment, reflecting the size of its economy, natural resources, ongoing economic growth, and safety in the eyes of foreign investors. Nearly three decades of uninterrupted economic growth contributed to this appeal.

Australia has many attractive qualities as an investment destination, reflecting a combination of commercial, economic and cultural factors. It is both a large economy and, until the brief 2020 recession triggered by COVID-19, had delivered uninterrupted economic growth for nearly three decades. As illustrated below, the World Bank rates Australia 14th globally in terms of ease of doing business, and 9th amongst OECD high income countries.

**Figure 18: World Bank ease of doing business ranking (OECD high income countries shown)**




*Source: World Bank - https://www.doingbusiness.org/en/rankings?region=oecd-high-income.*

Australia benefits from safe foundations as a place to do business, reflecting both its strong, common law legal system and its relative maturity and sophistication as a business centre for the Asia-Pacific region. "*Of the OECD countries that are in-scope for us to invest in, Australia is a key market for us*", commented Asif Hussain, Managing Director, Direct Private Infrastructure Investments at CBRE Investment Management, in Toronto. "*We see it as a major market with significant volume of opportunities, relative to other markets in the APAC region".*

That said, active professional investors commonly cite significant barriers encountered when seeking to deploy capital in Australia. In essence, most barriers can be grouped into a master category of "uncertainty". "*When we go about analysing an investment opportunity in Australia, one particular item that makes it difficult is knowing the latest regulatory changes. So much has changed since our first investment activity [in 2014]. Taxation and FIRB are the two big areas of change. When it takes us much longer to gain investment approval in Australia, it isn't as efficient relative to other markets like the US. There are many good companies that need capital, and we exist to help meet that need on behalf of our investors*".

[9] CIA World Factbook

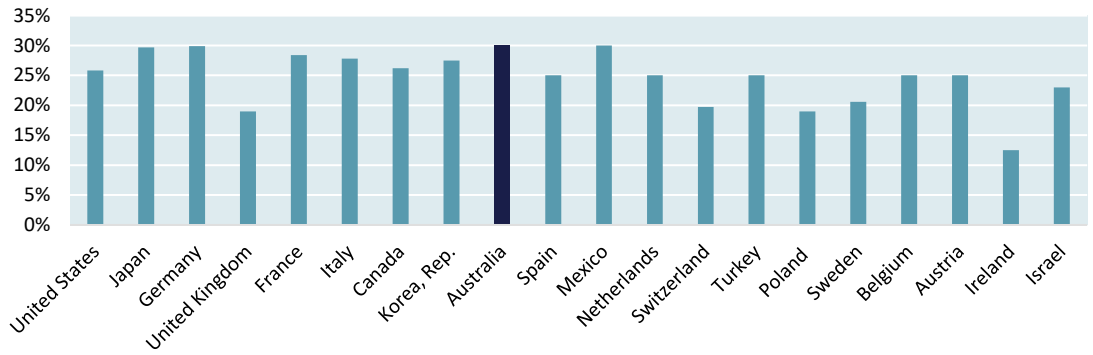
Meanwhile, Australia's workforce presents its own challenges to foreign investors. We note that many of the effected parts of the workforce form part of the "quaternary sector", ie those roles with an essential human element, including care, creativity, communication, collaboration and culture. These skills are readily transportable and are subject to growing demand and there is increasing evidence of significant competition for this talent between countries. Importantly, these roles are not just highly skilled or professional workers – they also include positions in parts of the services industry which are particularly important to Australia.

These factors illustrate the importance of considering not only capital formation, but also the creation of well-paid, rewarding and resilient employment opportunities.

## 5.2 Fiscal incentives and support

Australia has the highest corporate income tax rate amongst OECD members, albeit in line with Germany and Japan.

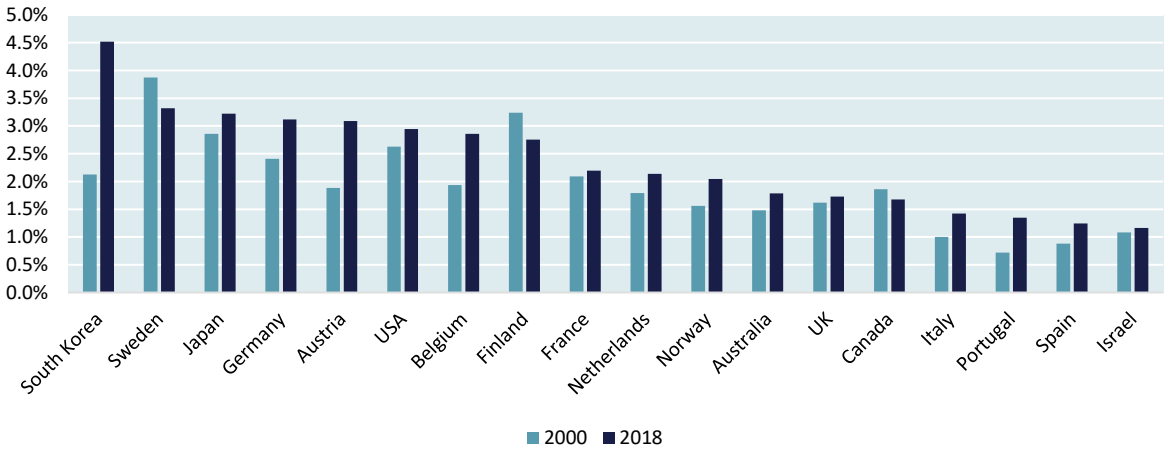
Figure 19: OECD corporate income tax rates, with countries listed in order of PPP GDP




*Source: Tax rates: https://stats.oecd.org/Index.aspx?DataSetCode=CTS_CIT GDP figures: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=OE&most_recent_value_desc=true.*

Based on OECD data, Australia's government investment in R&D is equivalent to approximately 1.8% of GDP. This is below the OECD average of c. 2.5%, but well below competing locations such as the USA, and major European and Scandinavian countries. As illustrated below, South Korea and Belgium have materially increased their support over the last decade.

Figure 20: Gross domestic spending on R&D as a percentage of GDP for selected OECD countries




*Source: https://stats.oecd.org/Index.aspx?DataSetCode=RDTAX.*

Rick Holliday-Smith, the former Chairman of ASX and Cochlear, is a strong advocate for investing in Australia in ways that support sustainable wealth creation for the country, as a matter of national interest. In commenting on the comparative attractiveness of Australia on the topic of R&D incentives and advanced manufacturing activities, Mr Holliday-Smith laments the reality that there is such *"significant drag into the US and other large markets. For a company like Cochlear, it is IP based, a world leader, makes significant commitment to R&D, and has high tech capital-intensive manufacturing requiring 10 to15 year investment cycles. If you don't provide appropriate and globally competitive policy and related incentives throughout all the cycles, the risk the company will start to focus on movement offshore increases. These policy settings and incentives must be consistent, well understood, and globally relevant with clear objectives to ensure these world leaders stay in Australia, and new emerging leaders do the same.*

*If you look at our country, we have a large land mass, endowed in natural resources, have quality agricultural capabilities, have attractive ecological features, but only have small population. That population is smart and well educated, and we are an attractive destination to visit and come to live. We must leverage our strengths looking forwards 20 to 30 years, this clearly indicates the past will not be a good indicator for the future. We could leverage our advantages to create substantial and cheap clean power, we should leverage our IP-based medical opportunities, we should ensure we create advanced manufacturing capabilities, and much more; we should expect our leaders to take a long-term national interest view.*

*The fact we are a small marketplace means we need to be better than the large economies with the necessary policy settings and incentives focused on building Australia's sustainable long-term capabilities, and the associated quality export facing jobs".*

## 5.3 The potential for a green resources boom?

As outlined earlier in this report, the largest industrial revolution under way is the transition of the world's energy value chain to renewable energy sources. Irrespective of public policy, this shift is now being driven by powerful economic forces and related industrial complexes such as the passenger vehicle industry are now repositioning their model ranges and supply chains. To put this in context, according to figures from Bloomberg New Energy Finance, more than US$500bn was invested in 2020 in energy transition sectors such as renewable energy, electric vehicles and charging, and electric heat[10].

We note that, whilst resources and infrastructure investment will necessarily take place onshore, there will be global competition to develop bioeconomy businesses and the production of green hydrogen. This highlights the importance of the proactive development of green hydrogen export hub in Australia by Fortescue Future Industries.

The emerging bioeconomy also offers significant opportunities for the agricultural sector. These vary widely in scale, from small projects that can readily be implemented locally (such as regenerative agricultural practices that improve agricultural yields whilst also creating new revenue streams from carbon recapture in soil) to much larger initiatives that would require national policy support.

Whilst investment in the domestic production of bioethanol for use in motor vehicles may not be attractive for Australia (given the rapidly accelerating adoption of electric vehicles), bioethanol can readily be converted into polyethylene, ie bioplastic.

[10] For further information, see https://about.bnef.com/energy-transition-investment/

# 6. Wider observations and conclusions

## 6.1 Looking beyond traditional labour productivity

Three major industrial revolutions are unfolding in parallel. These are driving profound improvements in productivity, not simply in the traditional sense of greater output per unit of labour, but also in relation to environmental and ecological productivity. Countries that harness these new technologies will realise significant economic and social advantage. We believe that China in particular understands these shifts – over the last forty years, it has invested heavily in requisite technologies, and is now developing new approaches to economic decision-making that take account of the interaction of environmental and social factors with economic ones[11].

Whilst many of the new ESG-related investment funds are, for the present, driven by superficial approaches to quantifying the effects of ESG factors on investment performance, the underlying long-term investors (typically pension funds) have a clear focus on the importance of ensuring that the companies in which they invest address these issues. As a result, we anticipate that the sophistication of the investment management industry will increase rapidly over the coming decade, eventually resulting in the concept of "impact-adjusted return on investment"[12]. Rather than translating environmental, ecological and social impact into dollar figures, this approach will be based on a true assessment of the interaction between these factors. We note that the Club of Rome's Earth4All project will deliver new modelling tools to support this analysis[13].

## 6.2 A shifting investment landscape

Whilst significant investment will be needed to support the shift in the energy sector towards renewables, a substantial part of this can be met by repurposing planned fossil fuel investments. Similarly, substantial shifts are already occurring in the motor industry value chain financed by private sector investment. Thus, the net amount of investment required to support this transition will not, in our view, create a substantial burden on economies. A stable foreign investment regime that facilitates foreign investment and enables businesses to be agile in the development and commercialisation of new products and services remains critically important.

Other areas of development, including the many businesses that are developing new forms of automation and robotisation, will require relatively little capital investment. This means there will be significant advantage for those investors that are successful in securing opportunities to invest in the high growth businesses of the future and who thus secure exposure to high growth, high return on equity businesses. These investments involve a substantially different (ie much higher) risk profile than traditional investments, and may be completed at valuations that look high based on traditional investment metrics. In addition, the speed of evolution of new technologies, and pace at which entrepreneurs expect to move, creates a significant challenge for investors that are not familiar with this environment.

## 6.3 The war for talent

Many new economy businesses are not anchored by place in the way that resources companies have been. Similarly, ongoing improvements in manufacturing automation and productivity mean that locating factories in low-wage cost locations is of declining importance compared to being able to recruit the much more highly skilled employees that are needed to run them.

[11] EG the new Ecological Civilization Center at Peking University launched in 2019 (see this link)
[12] See Impact-Adjusted Return on Investment – A paradigm for decision-making in the 21st century at this link
[13] See Earth4All.Life for further information

The implication of this is that economic success during these revolutions will be driven much less by access to resources and a war for capital, and much more by a war for talent. Importantly, both the businesses concerned and the employees they seek are highly mobile. Both are thus able to move to locations deemed attractive in terms of access to talent, access to customers, access to capital, appeal of the entrepreneurial environment and quality of life.

### 6.4 Creation of resilient, high-value employment

As economies shift towards the quaternary sector, ie activities with an essential human element, the creation of well-paid jobs with good long-term prospects will become increasingly important. Colloquially referred to as "green jobs", and enthusiastically promoted by politicians around the world under the tag line of "building back better", creating these opportunities will require national vision, sophisticated policy support and targeted private investment.

New technology and new business models (broadly speaking "Industry 4.0" and "the circular economy") are enabling onshoring of manufacturing and other initiatives that support these goals. Several European countries are now investing in programmes designed to encourage these types of opportunities, including supporting the stimulation of the industrial ecosystems required to support the formation of new businesses, launch of new products and creation of new supply chains required to serve them. Arguably Australia's relatively hollow industrial core, moderate innovation ranking, and weak economic complexity make this harder for it to achieve.

Meanwhile, we note that Pottinger's own ongoing analysis of the US economy demonstrates that such green jobs are both better paid and more resilient during economic downturns[14].

### 6.5 Polarisation of wealth and opportunity

IP-rich businesses – especially software-as-a-service and other workplace productivity businesses – can create substantial amounts of wealth for shareholders but may result in very little capital formation per se and indeed may create relatively few jobs per unit of market value. Others that create IP delivered through licensing may result in fixed capital formation in offshore locations as the technology is built, but very little fixed capital formation at home. Arguably hosting such companies, and a decent proportion of the jobs that they create, is materially more important than fixed capital formation.

One important implication of this is that these businesses will logically contribute to the polarisation of wealth, both within countries as well as between nations. In other words, just as the agricultural revolution concentrated wealth in the hands of those that owned agricultural production, and industrial automation has concentrated wealth in the hands of those that owned factories, a new round of wealth concentration will be driven by automation and robotisation. Unlike previous revolutions, however, where the underlying businesses were both capital intensive and were anchored in place by access to resources and physical assets, many new economy businesses are globally mobile. The formation of such companies – and retention of a meaningful proportion of the high value jobs that they create – will thus be one of the more important drivers of long-term economic success in the 21st century.

### 6.6 A new paradigm for risk and return

Over the last twenty years, interest rates have declined to levels that are exceptionally low in historical terms. In addition, the observed equity risk premium has also declined (most recently estimated at 4.72% by Prof. Aswath Damodaran at the NYU Stern Business School). As a result,

[14] See our monthly Green Jobs Report, delivered via our ESGX.org sustainability initiative at this link

if projects or investments are evaluated using traditional discounted cash flow methodologies, substantially greater value will be placed on longer-term results than was previously the case[15].

In this environment, long-run infrastructure becomes substantially more attractive, especially where high up-front capital investment is offset by significantly reduced operating costs over the life of the asset (as is the case with investment in renewable energy projects or nation-building projects such as high-speed rail). In addition, this interest rate environment also highlights the inherent value of higher-risk, higher-return investments that offer the potential for transformational change over multi-decadal periods, as low discount rates place materially greater emphasis on the long term.

## 6.7 Rethinking support for regional development

The above factors are equally applicable to developing nations as they are to Australia and other developed countries. In this context, we note that many new technologies are now enabling more rapid, lower cost and less risky economic development. As an example, countries can be electrified via deployment of distributed renewable energy generation and battery storage 1kW solar panel at a time, rather than requiring multi-billion-dollar commitments to build large scale power plants and distribution networks.

Nevertheless, this will still be capital intensive. We note that historical development models have left emerging nations with the need to make substantial financial payments offshore, constraining their ongoing growth. As Australia seeks to defend and enhance its position in the region, we believe it will be helpful to offer new economic development models that better support the long-term development of our neighbours.

## 6.8 Risk and opportunity in the 21st century

Looking ahead, we see both substantial risk and substantial upside for Australia. With a strong business environment, substantial financial capital and one of the most attractive living environments, in theory Australia can be an attractive place to build new economy businesses. In practice, the physical separation from the world's largest markets, limited access to capital for start-ups, and slow-moving business culture (at least compared to the USA or China) mean that both vision and significant effort will be required to unlock these opportunities.

Companies such as Afterpay, Atlassian, Canva, Cochlear, CSL, Fortescue Metals, Macquarie and ResMed have demonstrated that it has been possible to build large-scale, world-leading businesses based in Australia. Meanwhile, irrespective of whether these businesses have driven material fixed capital formation onshore, they have also demonstrated that it is possible to create substantial well-paid employment opportunities. Nevertheless, the gravitational pull of much larger markets, deeper employment pools and faster-moving capital can be hard to resist. Unsurprisingly, some companies have redomiciled overseas, and at an individual level we also see numerous entrepreneurs choosing to found businesses in (eg) the USA, rather than building them from the ground up in Australia.

As we have outlined in this report, there are areas of enormous long-term economic opportunity that could be stimulated in Australia, with the right collaboration between relevant private sector stakeholders and national public policy support. We see these of foundational importance to the nation's ongoing economic welfare and social prosperity. The challenge remains as to whether these opportunities can be grasped. Critically, this is not a matter of seeking to pick winning businesses, but rather to catalyse onshore development of the industries of the future.

[15] See *The Long Term Starts Tomorrow*, Chapter 2, "The Two Percent Challenge" for further context

# 7. List of figures