ISSUE 95

PITCHER PARTNERS

Investment news

Pitcher Partners Investment Services Pty Ltd

Kellie Davidson – Partner

If we rewind 12 months ago to the beginning of FY21, Australia and the rest of the world was still very much in the grip of the COVID-19 pandemic. Australians were hit with local and international travel restrictions, huge fiscal and monetary stimulus programs commenced around the world and lockdowns were implemented, including the commencement of an ~4 month period for Melburnians. Australia's 30yr run without a recession came to a crashing halt.

If we fast forward to today, the tragic humanitarian aspects of this virus have been clear, with ~4m deaths worldwide. The economic recovery however has been immense. The level of fiscal and monetary easing, in conjunction with the global rollout of vaccine programs has been extremely effective to date. Economic activity has surged across many areas of the world, with many forward looking indicators of activity pointing to further ongoing momentum, despite experiencing further waves of infections across many geographies. Elevated investor sentiment has resulted in the generation of spectacular returns across many equity, credit and commodity markets in particular.

The re-emergence of inflation fuelled by pent up consumer and business demand amid supply chain bottlenecks has raised the question on whether these pressures are transitory or will be more persistent in the future. Despite a few hotspots, pricing pressures within Australia have been relatively sanguine in comparison to countries such as the US and China, where headline inflation levels have spiked to near multi-decade highs as these economies continue to get back on track.

Investment market performance summary – 30 June 2021

Indices	Current	3 months	1 year
ASX 200	7,313.0	8.5%	23.99%
ASX 200 (Acc)	82,932.3	9.1%	27.80%
US S&P 500	4,297.5	8.6%	38.62%
Japan Nikkei	28,791.5	-2.2%	29.18%
UK FTSE 100	7,037.5	3.9%	14.06%
MSCI World	3,017.2	7.6%	37.04%
German Dax	15,531.0	3.5%	26.16%
French CAC	6,507.8	6.9%	31.84%
HK Hang Seng	28,828.0	0.9%	18.02%
Shanghai Comp	3,591.2	3.9%	20.32%
ASX 200 Prop (Acc)	60,791.3	11.9%	33.24%
Global Prop	2,994.4	8.0%	30.19%
Australian Bonds	10,512.5	1.5%	-0.84%
International Bonds	1,094.3	1.0%	-0.17%
Commodities			
Gold (oz)	1,770.1	5.0%	-0.61%
Oil (Barrel)	73.5	21.3%	87.09%
Iron Ore (Tonne)	211.2	36.1%	115.50%
Aluminium	2,523.5	13.1%	55.82%
Copper	9,374.5	6.9%	55.85%
Lead	2,274.0	15.4%	28.18%
CRB Index	213.4	15.4%	54.66%
Currency			
AUD/USD	0.7	-1.3%	8.62%
AUD/EUR	0.6	-2.5%	2.91%
AUD/GBP	0.5	-1.9%	-2.61%
AUD/JPY	83.3	-0.6%	11.83%
AUD/RMB	4.8	-3.2%	-0.75%

Source: Bloomberg

July 2021

Pitcher Partners Investment Services Pty Ltd
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During June, the Federal Reserve made no change to its policy settings but indicated, through its famous 'dot points' chart that future interest rate rises and bond tapering programs may arrive sooner than many market participants thought, placing the popular global 'reflation' trade on hold – despite subsequent assurances from many Fed officials seeking to allay any concerns over tightening policy settings too quickly.

At its July meeting, the RBA also began the slow process of gradually unwinding its own highly accommodative policy settings. However, this initially hawkish interpretation by the market was soon doused by Governor Lowe reiterating that the RBA's baseline view on conditions for a rate hike will not be met until 2024. This didn't prevent many economists still bringing forward their own rate hike expectations into 2023, on the back of a quite spectacular recovery in our labour market to date, with job vacancies now well above pre-pandemic levels and an unemployment rate at 5.1%.

In reviewing the extreme performance of asset classes for the financial year, hedged global equities (+37%) sat on top of the performance charts, driven initially by the seemingly insatiable demand for all things disruption and technology related, before Value stocks emerged from their almost decade long hibernation, which saw cyclicals including banks, miners, energy and industrials all outperform the broader index. US equities produced the sharpest gains with the S&P500 hitting an all-time high in late June. Emerging markets also performed strongly while European equities emerged from the doldrums in the second half of the year. Unhedged investors were impacted by a stronger $A, but the MSCI World ex Australia Index still rose 27.5% for the full 12 months.

Despite a relatively stronger economic performance, Australian equities trailed many of its global peers for the year. The ~28% return from the S&P/ASX 200 Acc Index was however its strongest financial year performance for over 30 years, driven by both the banking (+52%) and mining sectors (+47%).

FY21 will go down as one of the most volatile years in fixed income investing, with quite extreme movements witnessed across yield curves and sectors. Credit spreads compressed substantially over the year as economic conditions improved and delivered material outperformance over sovereign bonds. Both our local and offshore fixed income benchmarks posted modest declines for the year, providing some long awaited outperformance for patient floating rate biased portfolios.

Listed property markets, both on and offshore, recovered some of the steeper losses endured in 1H20, with A-REITS and G-REITS recording gains in excess of 30%.

Within the Alternatives asset class, our approved private equity and equity long short strategies provided the highest gains, our chosen private credit strategies navigated 2020 strongly. In a relative sense, global macro strategies struggled a touch in wake of broader macro volatility. Commodity prices, led by energy and industrial metals, performed especially strongly over the June quarter. Precious metals (gold and silver) posted a small positive return.

In turning to our articles this quarter, we discuss the current status of Australia's vaccination program which has garnered a large amount of scrutiny in the wake of the extended lockdown in Sydney, where we also discuss the potential risks to our economy and draw some parallels to the 2020 Melbourne lockdown.

In addition, we also discuss the surge in awareness around responsible investment, a topic we will be communicating in more detail to you going forward. On this theme, we also discuss the very exciting developments occurring within the hydrogen industry.

Australia's vaccine rollout program – update

Duncan Niven – Director of Research

Supply constraints, particularly around the Pfizer/BioNTech vaccine continues to see Australia lagging many major developed world nations in terms of vaccination levels across their respective adult population.

GS vaccine forecast table

Country	Region	Markets% population vaccinated (first dose)	% population vaccinated (first dose) by end of July	Month where 50% vaccinated 1st dose	Month where 50% fully vaccinated	Currently binding constraint^	Main/top vaccine provider^^
Developed Markets							
US	North America	55	58	May	Jul	D	Pfizer/BioNTech
Canada	North America	69	72	May	Jul	D	Pfizer/BioNTech
Germany	Europe	58	66	Jun	Jul	S	Pfizer/BioNTech
France	Europe	52	58	Jun	Aug	S	Pfizer/BioNTech
Italy	Europe	59	64	Jun	Aug	S	Pfizer/BioNTech
Spain	Europe	59	65	Jun	Jul	S	Pfizer/BioNTech
UK	Europe	68	70	Apr	Jul	S	AstraZeneca
Japan	Asia	30	37	Aug	Sep	L	Pfizer/BioNTech
Australia	Asia	27	33	Sep	Nov	S	Pfizer/BioNTech
Major capital cities							
Mainland China	Asia	49	67	Jul	Jul	S	Sinovac/ Sinopharm
India	Asia	22	27	Oct	2022	S	AstraZeneca/ Covaxin
Indonesia	Asia	13	19	Dec	2022	L	Sinovac
Philippines	Asia	9	16	Dec	2022	S	Pfizer/BioNTech
Thailand	Asia	13	30	Sep	Nov	S	AstraZeneca
South Korea	Asia	30	34	Aug	Sep	S	Pfizer/BioNTech
Malaysia	Asia	24	38	Aug	Sep	L	Pfizer/BioNTech
Taiwan	Asia	15	24	Sep	Dec	S	AstraZeneca
Turkey	CEEMEA	45	59	Jul	oct	S	Pfizer/BioNTech
South Africa	CEEMEA	6	9	2022	2022	S	Johnson & Johnson
Russia	CEEMEA	20	24	Nov	2022	D	Gamaleya
Brazil	LatAm	41	48	Aug	Oct	L	AstraZeneca/ Pfizer/BioNTech
Mexico	LatAm	27	33	Sep	Oct	S	AstraZeneca/ CanSino
Chile	LatAm	69	72	May	Jun	D	Sinovac

* We estimated China's figure from the official daily report of total doses administered.

^ S = supply constraint; L = logistics/distribution constraint; D = demand constraint, including government's restrictions on eligible age groups.

^^ Of total planned supply per 1 June 2021. By number of treatments (1/2 dose per person).

Note: countries are ordered by population size in each region (descending).

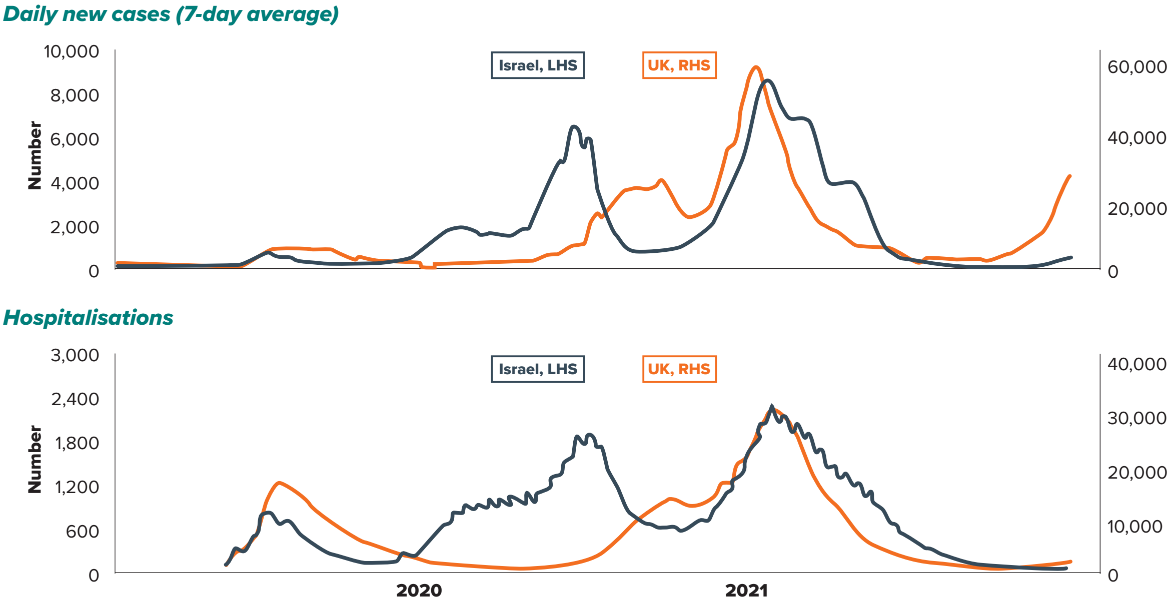
Source: Our World in Data, Goldman Sachs Global Investment Research

Australia's suppression strategy has been a success in terms of maintaining comparatively lower caseloads, however the current outbreak in NSW has heightened concerns around our relatively slower vaccine rollout and ultimately our ability to attain 'herd immunity' status.

Currently, Australia's vaccination pace is ~126k doses per day, which equates to being able to vaccinate approximately our entire population by mid next year. The supply disruptions for the Pfizer/BioNTech vaccine (targeted for the 16–59yr age bracket) are expected to alleviate over the coming months and we expect this to ramp up the pace of vaccinations from current levels. 2.8m doses are expected in July, with a further ~33m doses expected between August and December.

The Federal Government's recent announcement around its 'Four Phase' approach to transitioning the response to COVID will, in mid-August, begin to provide us with clarity around the minimum vaccination thresholds required in order for us to progress through these phases – which will likely see us transition from our aggressive suppression strategy to one which will attempt to live 'normally' alongside this virus. The latter approach is more evident in nations such as the UK and Israel, where despite rising caseloads (especially in the UK – Delta strain), the high vaccination rates (>80% of population 16yrs+ having received at least one dose) appear to be restraining the level of hospitalisations for now, providing some tangible confidence around the efficacy of the vaccines.

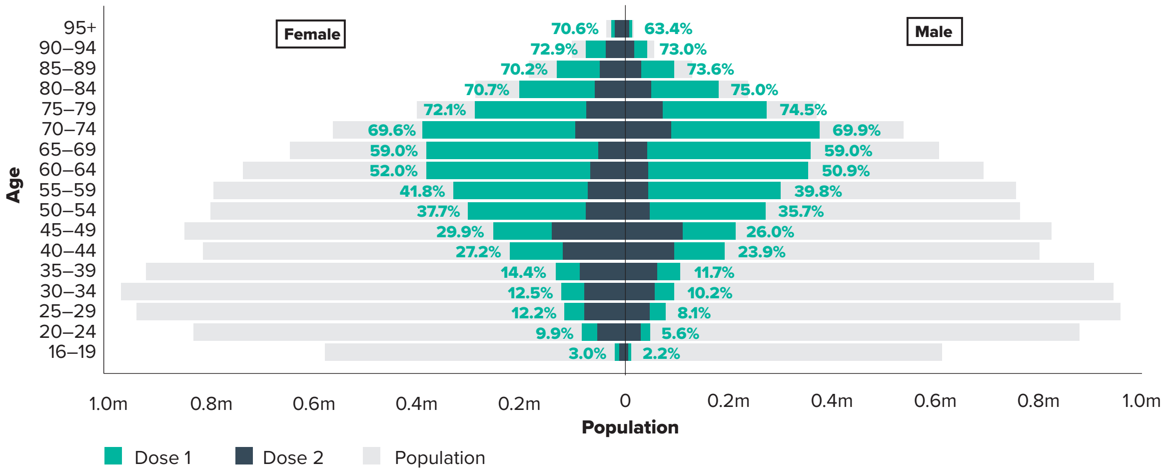
Isreal and UK – Key COVID-19 statistics



Source: National Australia Bank, National Sources

To date, there has been a high degree of debate over what vaccination levels are required to achieve 'herd immunity'. NSW Premier Gladys Bereijklian was quoted on achieving 75–80% adult full vaccination rates before "you can start having conversations about what COVID normal looks like". Certainly via the chart below, even with the older age brackets that have readily available access to the AstraZeneca vaccine, we are still yet to hit 80% across any age segment, male or female.

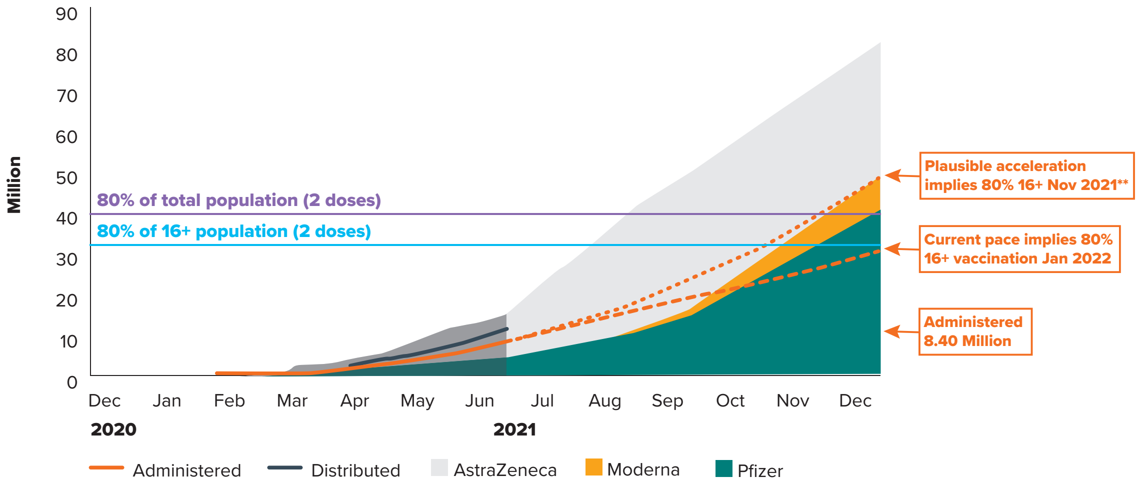
Vaccination by age and sex



Source: NAB Markets

The economics team at NAB believe that with reduced vaccine hesitancy (perhaps fuelled by current events in NSW) and no bottlenecks in distribution, its plausible we could achieve 80% by the end of November 2021, if we replicate the ramp up in vaccination pace that Canada achieved when it resolved most of its own supply issues. At our current vaccination pace, we are likely to achieve 80% in January 2022, a forecast consistent with the views of the Federal Government.

Current vaccine pace lags, but supply constraints will ease*



* Supply projections based on Department of Health indicative allocation horizons as at 18 June 2021.

** Assumes daily pace increases linearly, comparable to the EU's recent pace by September, and continuing to increase towards recent population-adjusted Canadian pace at end 2021.

Source: National Australia Bank. covid19data.com.au, Department of Health, government sources

Until this time however, with the Delta variant so easily transmissible, temporary lockdowns are likely to be a consistent feature until we are able to achieve the desired vaccination rates across our population. Whilst consumer and business confidence still remains robust for now, this may well be challenged if we are unable to make major progress in our vaccine program through the second half of this year.

Will Sydney experience a repeat of the Melbourne lockdown experience in 2020?

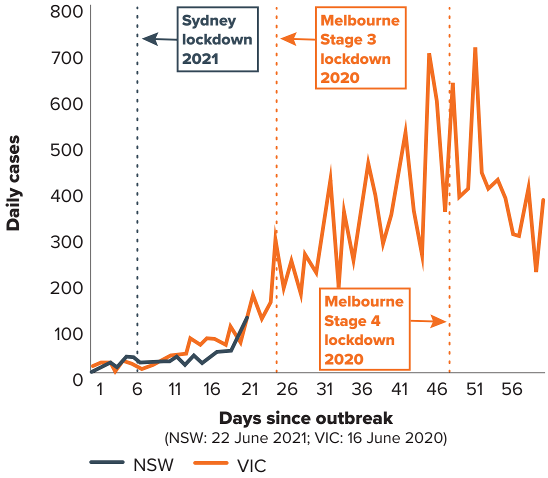
Duncan Niven – Director of Research

At the time of writing, Sydney's COVID outbreak continues to worsen. The original 3 week lockdown period has been extended and with case levels remaining at elevated levels, focus is beginning to sharpen around the likely duration of this lockdown and what the likely health and financial consequences could be.

Given the highly infectious nature of the Delta strain of this virus, we clearly state up front that the outlook remains highly uncertain. However to date, we believe there are currently some positive signs that this lockdown is unlikely to be as severe as the 4 month period in Melbourne over the course of 2020.

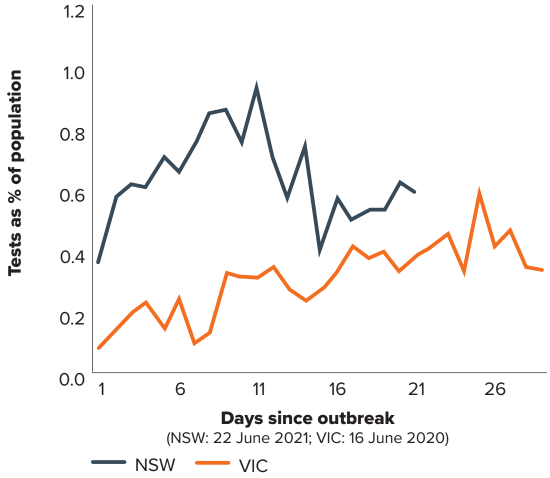
Simply looking at the initial daily locally acquired cases, there does appear to be quite a close relationship between the current Sydney outbreak and the 2020 equivalent in Melbourne.

Daily new cases (locally acquired)



Source: Covidlive.com.au

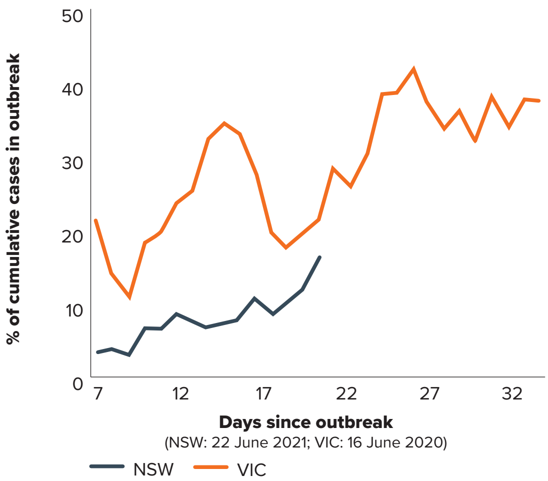
Daily testing rate (% of state population)



Source: Covidlive.com.au

However what is clear in this data is that Sydney has imposed the lockdown at an earlier stage of the outbreak. In addition, Victoria has received its fair share of criticism around the effectiveness of its contact tracing system (especially in 2020) and despite the more infectious nature of the delta strain in Sydney (which worryingly is leading to twice the number of hospitalisations that was recorded in Victoria), there are currently a lower number of cases under investigation in NSW.

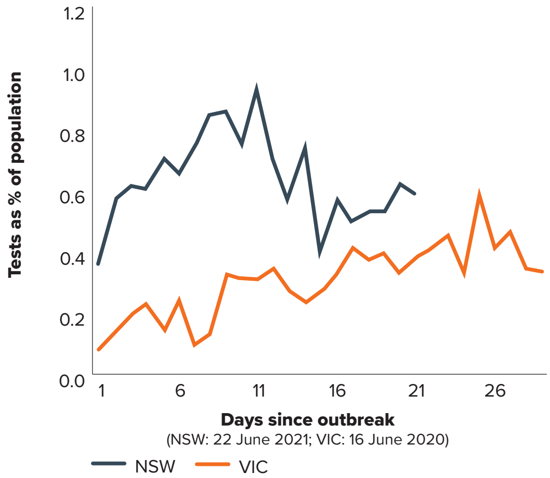
Cases under investigation (% of cumulative cases in outbreak)



Source: Covidlive.com.au

Daily testing rates (as a % of the states population) and mobility data also point to a more immediate response than the stage 3 and ultimately stage 4 restrictions in Victoria.

Google mobility (Average of retail/transit/ workplace, 7-day moving average)



Source: Google

From an economic perspective, many strategists and economists continue to view this lockdown as a temporary speed bump on our economic recovery. In assuming a further 3–4 week period of collapsed activity levels akin to what occurred during Victoria's stage 4 restrictions, taking into account the recently announced fiscal support packages and greater household savings balances, Goldman Sachs estimate a hit to our national GDP of 0.4% over the course of Q3 this year (mainly from a decline in household consumption), shaving 0.1% from its full year forecast as NSW recovers when restrictions are eventually eased.

Goldman Sachs also estimates that if the lockdown lasts for a 3 month period, the hit to GDP doubles (-0.8% Q3, -0.2% CY21).

If we look more broadly, the increased rollout of vaccines, as further supplies of Pfizer hit our shores, continues to provide a supportive backdrop for a bullish consensus 2021 GDP forecast of 5.1%, which would represent an impressive recovery from the recession experienced last year.

The rise of ESG investing

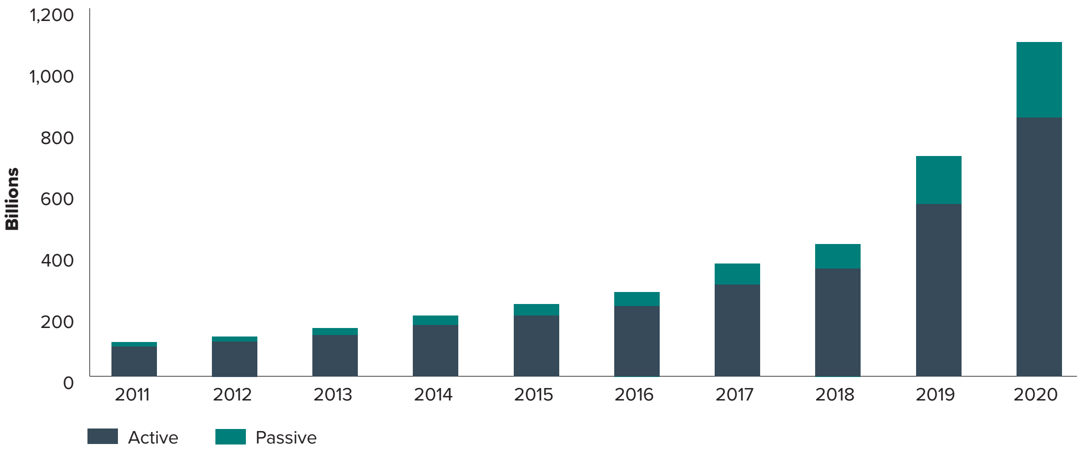
Morten Frederiksen – Senior Investment Analyst

In recent months and years there has been a pronounced shift in investment flows towards products focused on responsible investment, or those focused on environmental, social and governance (ESG) norms.

These funds invest based on companies meeting a set of criteria around environmental, social and governance norms, often preferring companies who are deemed to do the least harm, or 'most good'. There are several degrees of investment funds, from those simply looking to exclude certain harmful sectors or stocks, to ethical and sustainable funds looking to invest in companies with sustainable policies in place, and to impact funds who invest in companies seeking to deliver a measurable impact via a theme or themes, alongside a financial return, in their investments.

While not a new phenomenon, these types of funds have seen a surge in interest in recent years. According to data from Morningstar, the growth in sustainable funds in Europe alone rose by 52% to EUR 1.1 trillion (A$ 1.73 trillion) during 2020. Over the past decade, the growth in sustainable funds has led to the assets increasing ten-fold. In Australia, the picture is similar, with fund inflow growth of 54% over the year to end-March 2021, to a total of $27.9 billion.

Annual European sustainable fund assets (EUR billion)



Source: Morningstar Direct, Morningstar Research. Data as at December 2020

The acceleration of adoption of responsible or sustainable funds, highlights a renewed and heightened trend among investors to focus on what is perceived as less harmful to the environment and society in general. A proliferation of new funds have been launched to capitalise on this trend. And even among traditional core funds there is a shift, among some, away from higher carbon emitters and those deemed to be acting less responsibly, as the risks are perceived too high.

Backed by a renewed commitment by a number of global government leaders, this trend is likely to gain further momentum and accelerate further.

Shifting risks

This trend does raise the prospect of a shift in the risk profile for companies, industries and indeed countries, who are seeking to access capital markets. This also requires additional reporting among companies seeking to raise capital and has the potential to create a dichotomy of those who are seen as 'doing good' versus those seen as being non-compliant with the ESG norms.

In theory, companies who are better corporate citizens, and 'do more good than harm', should see a lower cost of capital and be rewarded with higher valuations, as they contribute more towards a better outcome for the world.

With this in mind, several prominent pension and investment funds have begun shunning key areas of concern, often led by sovereign funds. Fossil fuel companies, for example, are complaining about a shrinking pool of investment funds, as more and more funds are focusing on 'doing good'. This can have longer-term implications for the ability of these types of companies to access capital markets as investors demand ever increasing returns for accepting the risks of investing in fossil fuels. Companies have also begun to sell off subsidiaries, not just in fossil fuels, but also in other areas, where there are social or environmental concerns arising.

Additionally, some companies are facing a backlash from investors for ignoring ESG risks and scrutiny as they pursue a shorter-term profitability target, versus the longer-term cultivation of the business. This is seeing a rise in shareholder activism, with shareholders increasingly putting pressure on companies to do the right thing and will continue to put pressure on parts of the market to adapt how they operate, and embrace the need for increased disclosures, improved ways of operating and increasingly taking investors views into account.

This pressure from investors and activists will likely lead to a change in corporate behaviour over time and will be followed up with increasing regulation to ensure compliance.

With this focus on ESG, there will be winners and losers, with the losers likely facing higher costs of capital, lower valuations, and more restricted access to capital, while the winners will see the opposite. However, the move towards ESG does not necessarily result in a net negative for those operating in those sectors considered harmful. The transition to renewable energy sources will cause those investing in, and developing, renewable technology, batteries, electric vehicles, hydrogen etc to see new flows of capital and investor interest and will present new opportunities to create value for shareholders.

A transition towards companies embracing net-zero emissions or better governance and social licenses is ongoing, and it is likely that more and more companies embrace these issues as they recognise the risks and opportunities of the ESG movements. A likely set of winners will likely be companies that are able to adapt their business models and embrace the responsible investment movement and ideals.

Force for change

ESG funds are driving a change in the way the markets are assessing risks and pivoting the investment model for many. While these funds should be lauded for pursuing a long-term benefit for all, some investors have long been operating with a set of governance rules which will be minimally affected by this movement. This subset of investors have long adopted a fiduciary duty to act in the best interest of their clients by investing in companies and markets where the long-term risks of businesses are being considered and accounted for. While not branding products as ESG, the processes and ways in which these investors assess potential investments already accounts for many of the risk factors that ESG funds seek to address.

Conversely, there are some that will seek in capitalising on this trend of ESG investing, by claiming to adopt the right framework and way of investing, but whose sole purpose is to raise the maximum assets under management to earn their fees, a strategy known as 'greenwashing'. The challenge is to identify who has the right mindset.

Ultimately investors, and the companies they invest in, will face increasing demands to report on a rising number of areas to show that they are adhering to the newer norms and standards, and it is expected that regulation around these standards will continue to evolve over time. As much of the data and reporting norms are still in the process of being unified, there is a wide discrepancy between the data being reported, adding to the level of confusion. Additionally, the areas of concern to ESG managers varies greatly, leading to many ESG portfolios to have widely diverging outcomes and portfolios.

The increasing requirements for funds and companies to increase the level of data they report on a number of additional measures, will make it a difficult and complex market to navigate in coming years.

As a firm, Pitcher Partners Investment Services are acutely conscious of these shifts and incorporate this thinking into the products we recommend for client portfolios. Our goal is to continue, as always, to focus on funds and individual securities where we have assessed the risks and are comfortable with the long-term strategy and process of the investment. We also rigorously assess the ESG credentials of any manager selected for our approved lists and aim to match them to external data providers for validation.

Hydrogen – Our next great export?

Alistair Francis – Senior Investment Analyst

As the Resources and Energy sector analyst in the research team, I have been surprised at the volume of news-flow relating to Hydrogen studies and to the possibility it might be Australia's next great export industry. Despite it being very early days in the commercialisation of this alternative fuel, a number of Australian based consortiums are working on feasibility studies to ensure they have all the critical parts in creating a national and international supply chain.

These studies include a diverse group of stakeholders including State and Federal Government sponsored initiatives, local corporates and even the large global conglomerates as they see the potential for hydrogen to be the solution to our hard-to-decarbonise industries.

Colours of hydrogen

The world currently produces and uses millions of tonnes of hydrogen, but that so-called grey hydrogen is sourced from natural gas such that when it is heated, it splits the hydrocarbon molecules in a process known as 'steam reforming'. It's energy intensive and produces carbon dioxide as a by-product. Around 80 per cent of hydrogen produced in this manner is currently used to either make ammonia, a critical component of modern agriculture, or refined oil. A significant proportion of the rest goes into food production.

Brown hydrogen production uses coal, making it the dirtiest but it is currently the cheapest form of this fuel source. Blue hydrogen seeks to offset the environmental impact of grey hydrogen by permanently storing the resulting carbon dioxide underground, known as 'carbon capture storage'. In contrast to its carbon-emitting cousins, green hydrogen uses renewable power, to extract hydrogen from water, via electrolysis. The great hope is that this clean, green hydrogen can decarbonise some of the world's essential industries such as power generation, steelmaking, heavy haulage and sea transport.

One factor however holding back green hydrogen being commercialised, is its cost. The hope is that as the technology evolves and scale increases, green hydrogen will achieve cost-parity with the more heavily polluting grey hydrogen. Accordingly, along with the support of Government, large-scale development will be critical to driving down installation and start-up costs, just as it was for renewable power.

Other factors that need to be resolved include it's tricky to transport, technical to store and has some awkward side effects, including being explosive and, in some cases, making a number of metals brittle.

The most important component in the production of green hydrogen in particular, is the cost of electricity from renewable sources (namely, hydro, solar, wind or geothermal, which on average is ~ 55%) so critically, Australia is very well positioned.

A growing commitment

A recent report for the Federal Government backed Clean Energy Finance Corporation (CEFC) by Worley's (ASX: WOR) consultancy arm, Advisian, found green hydrogen should become commercially viable for parts of the transportation industry as early as 2030. In turn by 2030, green hydrogen would also be competitive for mining vehicles along with in the natural gas network, and closing in for ferries, regional aviation, ammonia, and refining.

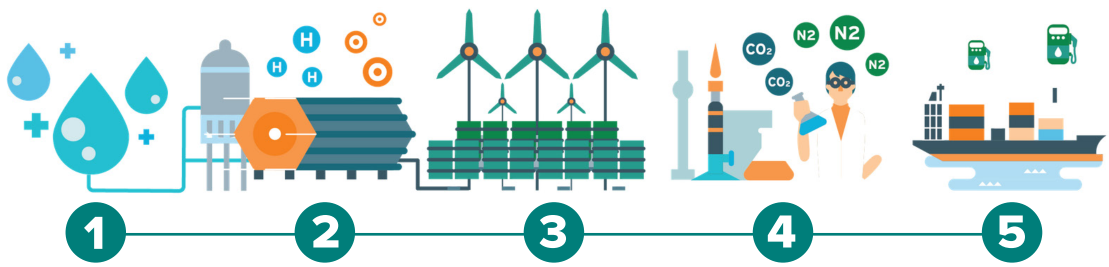
However, it is expected that it could take until 2050 for green hydrogen to become cost-competitive in industries such as steel mills, marine shipping and other areas, although these dates would be brought forward if customers were prepared to pay a premium for low-carbon products or if market mechanisms were introduced that offered subsidies.

Further support comes with the recently launched CSIRO sponsored Hydrogen Industry Mission which aims to cut the cost of hydrogen production to under $2 per kilogram, from up to $9 per kilogram currently, and position Australia to replicate its success with iron ore and LNG through a new clean fuel export business. Up to 8,000 jobs and $11bn a year in GDP could be fed back into the economy if the right settings and cost structures are put in place, according to the CSIRO.

The CSIRO will work on more than 100 projects with partners including Fortescue Metals Group, Toyota and Hyundai through development of a knowledge centre, feasibility and strategy studies, demonstration projects and the development and commercialisation of new hydrogen technologies.

Hydrogen: Our next great export?

Here's how it might work



1. Water is purified
2. Water is split into hydrogen and oxygen using an electrolyser and electric current
3. Electrolyser is powered by solar, wind or tidal energy
4. Hydrogen compressed or converted into ammonia or synthetic natural gas (SNG) for transport
5. Compressed hydrogen, ammonia or SNG is shipped abroad to be used or reconverted to hydrogen

Source: ARENA (Australian Renewable Energy Agency). https://arena.gov.au/assets/2019/08/hydrogen-infographic.pdf

The push globally is also seen in the European Union where last year it rolled out its own hydrogen strategy and has estimated investment in the industry could reach hundreds of billions of dollars by 2050. Several European oil companies, including Royal Dutch Shell PLC and BP PLC, are currently backing new hydrogen projects. In the aviation world, Airbus also last year unveiled plans for the development of three hydrogen-fuelled airplanes that they hope will enter service by 2035.

The leading listed corporate currently in Australia who is focussed on this exciting new opportunity is Fortescue Future Industries (FFI), a 100% owned subsidiary of Fortescue Metals Group (ASX: FMG). FFI has multiple projects (including green hydrogen and green ammonia) currently in operation which it will support through funding, development and ultimately operating. FMG, chaired by high profile billionaire Andrew Forrest, has told shareholders he is seeking to replicate and eventually surpass its success in iron ore mining.

To show how serious FMG is to progress its new growth option, FFI will be funded by the allocation of ~10% of FMG's earnings on an annual basis. The most progressed of its new opportunities is the Bell Bay project in northern Tasmania which is looking to deliver 250mw of green hydrogen and 250kt of green ammonia, being powered by existing renewable energy (mostly hydro). Bell Bay has long been an industrial hub, being host to an aluminium and manganese alloy smelter, as well as the Tamar Valley power station.

The Japanese government has also invested in a hydrogen supply chain project in Victoria's Latrobe Valley while Origin Energy (ASX: ORG) has signed plans to build a giant hydrogen export plant in Townsville backed by Japan's Kawasaki Heavy Industries Ltd.

To highlight the federal Government's commitment to the development of this technology, seven hydrogen hubs will be created under the current blueprint spanning Western Australia's Pilbara through to the industrial heartlands of NSW's Hunter Valley, Victoria's Latrobe Valley and South Australia's Whyalla. The hubs aim to crystallise billions of dollars of investment pledged by high-profile ASX-listed companies, private investors and some of the biggest international energy names.

A further indication of the growing commitment by many parties (and abundance of market news-flow) is that Australia currently boasts of 35 green hydrogen electrolyser projects across the country, with a collective potential capacity of 38GW, albeit most of these electrolysers are currently in the pilot phase.

For now, hydrogen production remains an expensive alternative to existing energy sources. However, like many previous industrial challenges, when technology is applied at scale, the cost of production can be brought down dramatically. As a country, we are ideally placed with the abundance of key inputs to both grey, blue and green hydrogen so with the benefit of time, it could possibly become another great export earner for Australia.

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