CAPITAL EDITION

WILL AIRPORTS EVER BE THE SAME AGAIN?

Though the pandemic has taken planes out of the sky, the long-term proposition for airports remains attractive for the global listed infrastructure team at AMP Capital.

A NEW ROCK STAR IN REAL ESTATE IS BORN

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THE UNITED STATES IN 2021: ANOTHER GAME-CHANGING YEAR

The next 12 months will set the parameters for the US's economic growth over the next decade, and its role in global politics and trade. Much like 2020, this year will be one to watch for the world's biggest economy.

THE NEW FACE OF FRONTLINE RESPONDERS

If anything can test an asset class's resilience, it's a pandemic. For community infrastructure, the last 12 months has demonstrated the resilience of these assets and made the AMP Capital team hungry to invest more.

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If anything can test an asset class's resilience, it's a pandemic which – literally – prompts parts of the economy to switch off. For community infrastructure, the last 12 months has demonstrated the resilience of these assets and made the AMP Capital team hungry to invest more.

Letter from the Managing Editor

Welcome to 2021. It feels great to say that.

Capital Edition will continue to keep its eyes firmly fixed on what we consider opportunities for investment and social impact. Though it's a tough ask in a world still coming to grips with a deadly pandemic, our investment teams continue to present cause for optimism.

For one, our community infrastructure team have built an even stronger appetite to invest in schools, after education's defensive characteristics were spotlighted in 2020. Senior associate, Kathlyn Crafford, and associate director, Andrew Jones, share their thoughts on how the sector has shown value and will continue to do so.

Through our lived experience last year, we intrinsically know that technology made it possible to limit mobility without entirely limiting all workforces. That's one example alone of the role data plays in a modern economy. For James Maydew, our head of global listed real estate, data centres in China represent one of the fastest-growing, exciting opportunities on the world stage in this respect.

For our global listed infrastructure team, planes being taken out of the sky was quite the scenario to approach. Still, our portfolio manager and analyst, Andy Jones says he doesn't believe "for one moment" that global tourist attractions will lose their appeal in a post-pandemic world. He also shares patterns on domestic air travel in China post-pandemic, which forms part of his answer to a big question: will airports ever be the same again?

Another stunning question on the world stage: how will the United States fair in 2021? The world's largest economy has already faced a lot this year – an escalating national health crisis, civil unrest, and a sitting president disputing an election result. Our senior economist, Diana Mousina, shares her thoughts on the year ahead for the global superpower.

Finally, our head of dealing, Dylan Kluth, shares a surprise twist in the work-from-home experiment advanced economies have been living through. The very nature of a dealing desk has traditionally commanded working in close proximity with your colleagues, but the pandemic has flipped that history on its head, serving up new opportunities for talent and working relationships. Dylan shares this good news story in his Capital Edition debut.

As always, I hope you're keeping safe and well, and I hope you enjoy this issue of Capital Edition.



Many thanks.



Rachael Dickinson Managing Editor, AMP Capital

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It's not every day you hear an argument in favour of investing in airports during a global pandemic.

More so as Europe lurches between total and partial lockdowns which bar most people from travelling¹.

But Andy Jones, the London-based portfolio manager and analyst at AMP Capital who specialises in transportation infrastructure. has been following the sector for more than a decade through its highs and lows.

And his view is that after years of airport companies looking expensive, they suddenly look good value again and that the doom and gloom in the industry due to COVID-19 is both misplaced and temporary.

"I don't for a moment believe that post COVID-19 people won't want to see the Eiffel Tower, the Vatican or the Sydney Opera House," says Jones.

The air travel industry has long been attractive to investors, chiefly because it tends to grow faster than global GDP.

The International Civil Aviation Organization (ICAO), an arm of the United Nations, records that since 1995, global GDP has grown at an average 2.8 per cent but world passenger air traffic has increased at an average annual rate of 5 per cent².

"There's also an interesting relationship between GDP per capita and the propensity to travel," says Jones.

"It spikes quite a lot once you get past a certain level of GDP per capita."

"Clearly in places like the US, UK and most of Western Europe, we have quite wealthy countries and travel won't grow much beyond GDP."

"But when you look at countries like China, India and Brazil, they're still right at the bottom of the curve."

"They have low GDP per capita and a very low propensity to travel. A small change in GDP per capita in those places will lift their propensity to travel disproportionately."



^{2.} https://www.icao.int/sustainability/pages/facts-figures_



"I don't for a moment believe that post COVID-19 people won't want to see the Eiffel Tower, the Vatican or the Sydney Opera House."

- Andy Jones, AMP Capital





It is this relationship to global growth and income that is behind Jones's faith that the industry has decades of growth ahead of it despite the current dislocation.

To be sure, the pandemic had a significant impact on the industry.

ICAO says air travel has fallen 50 per cent in calendar 2020 from its normal activity as measured by seats offered, while the overall number of passengers flying has fallen about 60 per cent year-on-year, with the worst hit regions like Europe down 75 per cent even after a 'normal' Q13.

"But I don't think the primary reason is because people are scared of catching COVID-19 on a plane," says Jones.

"People are more scared of being stranded in another country because the rules change when they're abroad."

The International Air Transport Association (IATA), a trade association of the world's airlines, has been keeping track of the number of COVID-19 cases transmitted on flights.

Since the beginning of 2020, 1.2 billion passengers have travelled. But just 44 cases of COVID-19 have been reported in which transmission is thought to have been associated with the flight4.

As IATA proclaims on its website, that's one case for every 27 million travellers⁵.

Jones believes the real driver of decline is a lack of policy consistency, contrasting Australia and New Zealand's stringent but unwavering travel bans with the chopping and changing of policy responses in Europe.

"In Europe, each country has a different approach, each country has different rules and the rules have changed frequently," he says. >

- 3. https://www.icao.int/sustainability/Documents/COVID-19/ICAO_Coronavirus_Econ_Impact.pdf
- 4. https://airlines.iata.org/analysis/extremely-low-risk-of-viral-transmission-inflight
- 5. https://www.iata.org/en/youandiata/travelers/health/low-risk-transmission/



"It's basically created a complete lack of confidence for travellers."

This fuels his confidence of a swift return to growth as things settle down: "We're currently expecting the 2019 volumes to come back in 2023 and 2024."

Jones was not always this confident in the investment case for airports.

"Generally, my view was that many listed airport companies were overvalued for much of the last four or five years," he says, adding "we found we needed to invest very selectively within airports."

But with the pandemic halving the share prices of many airport operators, the industry has come strongly onto his radar.

Valuations aside, Jones believes the pandemic is likely to eventually leave the industry on a more sustainable footing.

He says the pandemic has given airports a chance to reset their relationships with regulators which bodes well for investors who stick with the industry.

"Airports have their own regulatory cycle like a utility, and we were at a point where after five very strong years of growth they were about to get into some quite noisy discussions with regulators," says Jones.

"And then all of a sudden you hit COVID-19 and all discussions have a very different starting point."

He expects the relationship between airports and retailers, which had got out of balance in recent years as power shifted towards the airports, to be similarly reset.

"The retail relationship has been quite unhealthy. The effective rent in an airport was three to four times what you'd be paying to be in a high-end shopping mall," he says.

In AMP Capital's experience, airports tend to charge rent on a sliding scale with a minimum guarantee and a maximum set by percentage of sales, sometimes at 40 per cent or more.

"Retail revenue in shops is pretty close to zero at the moment, and those minimum guarantees have become completely untenable," says Jones. "So, the model has fallen apart."

Jones says this means the airports and their retail tenants have had to restructure to reduce the minimum guarantees, reduce the rents and often extend the contracts.

"Generally speaking, it is going to lead to a lot more joint vision between the landlord and the retailer."

"This move to a more joined up approach will actually reinvigorate the rate of growth in spending in airports."

Meanwhile, Jones says some of the technology that airports have been forced to install during the pandemic will pay off in reducing their costs and improving the airport experience in future.

Some airports have been investing in reducing human contact at check in, security and border control making the process of moving through an airport more frictionless.

The UK is trialling facial recognition technology on domestic flights that allows passengers to avoid handing their passports or ID cards to boarding agents.

Some airports in China aim to use facial recognition through the entire airport process.

These systems are being installed to reduce human-to-human virus transmission, but they are having the side effect of making the airport experience more pleasant and freeing up people's time for shopping and eating.

Jones says cleaning is another area where airports are investing in automation in response to customer expectations of clean, virus-free surfaces.

"Cleaning is actually one of the levers that an airport can tweak up or down to make a material difference to the cost base," says Jones. "It's a very labour-intensive activity."

"If you can have a broader adoption of automated cleaning robots then that is something that will come at an upfront cost – when capital is very cheap – but will be worthwhile for an airport in the long run."

Another factor supporting the outlook for airports is that falls in the cost of travel are likely to continue.

"The cost base of an airline is predominantly fuel, and the fuel price is still down substantially year on year," Jones says.





"The price that an airline can offer a ticket at relative to 2019 has come down. Low cost carriers sense a 'once in a generation' opportunity to win market share from flag carrier airlines via a stimulative focus on low ticket pricing."

Jones says airlines have been forced by the pandemic to reduce their costs and the larger, older inefficient planes that have been mothballed during the virus will probably never come back.

"This means an aviation fleet post-COVID-19 probably has a lower unit cost," he says.

All these factors look like making air travel more attractive than ever as the pandemic fades.

And when air travel comes back, Jones expects it to come back quickly.

"Look at China, where domestic air travel demonstrated it could return to 2019 levels within six months⁶, or Mexico, where domestic demand is back to around 70 per cent, even above 100 per cent in some cities⁷."

"It's kind of hard to argue that Mexico has actively controlled the virus so, again, the fear factor doesn't appear to be an issue."

"At the start of this pandemic, the plane was the only place where you had to wear masks and have social distancing."

"Now these are the same precautions you take at the supermarket – we are all used to it."

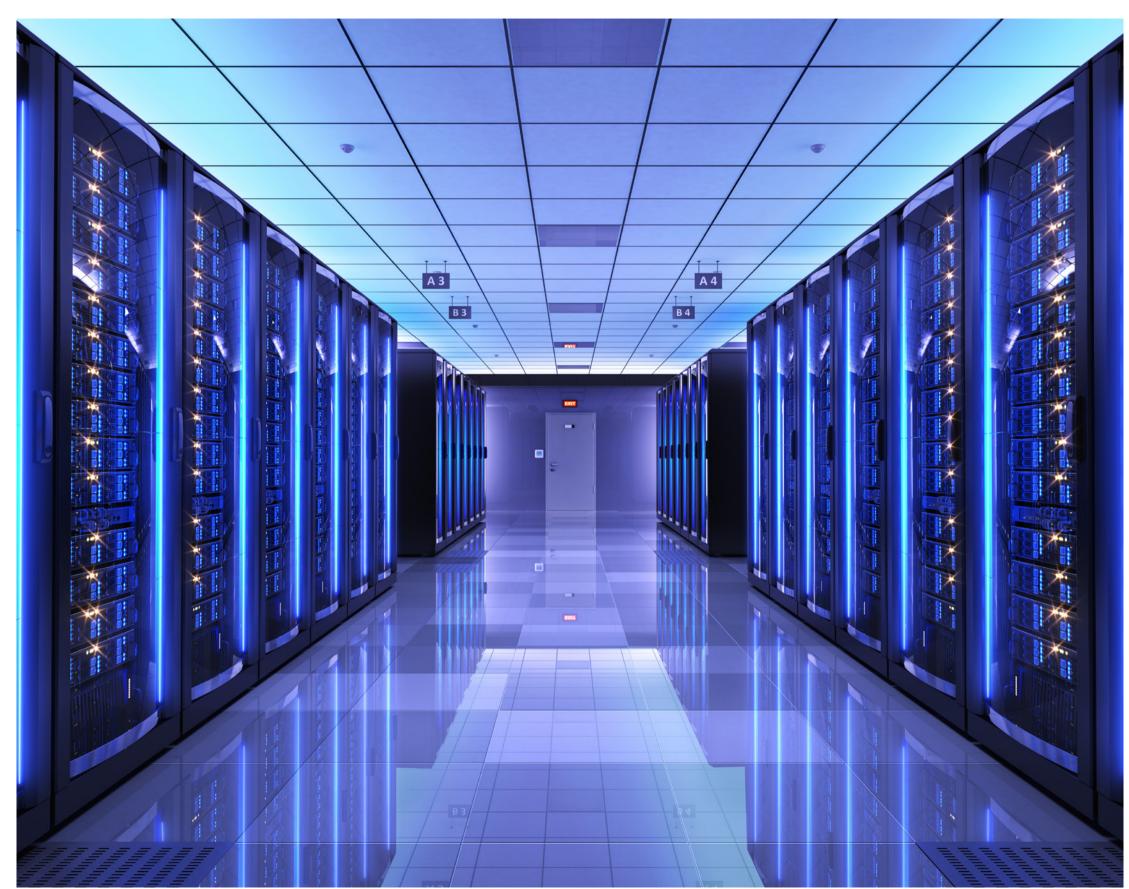
"The airline industry is fighting a battle to prove to consumers that it is safe to fly."

"Ultimately, it is a battle that they are winning."

With a suite of vaccines becoming available imminently, the aviation industry recognises its importance to kickstarting tourism. Industry trade associations have moved with high speed and unusual collaboration to develop a 'travel pass', which they hope states will adopt as part of the process of reopening borders. For a large part of the crisis so far, the industry's safety claims have been disregarded by politicians – now it seems they are ready to hear.

- 6. Bank of America Securities research reports
- 7. Grupo Aeroportuario del Pacifico; Volaris monthly traffic data

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A new rock star in real estate is born

Data centres don't sound like the kind of asset typically sought after by traditional real estate investors, but this view is changing rapidly globally. The global listed real estate team at AMP Capital share their thoughts on one of the fastest-growing sectors of the market.

Story by SIMON ANDERSON

Data centres are largely nondescript buildings that house endless rows of computer equipment, consuming prodigious amounts of electricity and producing immense amounts of heat, increasingly utilising green energy as a source.

But as the world grows increasingly digital – from entertainment to business to everyday household life – the data centre is fast becoming the rock star of the real estate investing world.

"Think about the principles of real estate supply and demand," says James Maydew, AMP Capital's global head of listed real estate.

"There's not many real estate sectors that are forecasting a tripling of demand in the underlying fundamentals like Chinese cloud computing revenues¹."

And while data centres are a global phenomenon, driven by the incessant digitisation of every aspect of the planet, Maydew has eyes for the fastest-growing and one of the most digitised economy of them all – China.

"The Chinese consumer is very, very tech savvy," he says.

"The modern culture is all about technology especially around the mobile device. They have some of the highest penetration rates for e-commerce in the world to give you one example."

"And all of this is driving fundamental compounding demand for data. That's the base case."

One of the chief underlying drivers of optimism about the Chinese data centre industry is the continued growth in cloud computing, but like everywhere, there is also the emerging roll-out of 5G mobile phone technology and how that will transform the economy.

5G – the fifth generation of mobile phone technology – is with us today in its early stages but its impact on the world will be far reaching.

It is illustrative to remember the sweeping changes introduced by each new generation of wireless technology.

From the first generation of mobile networks that offered only voice calls, technology rapidly matured. The 2G roll-out gave us SMS messaging, smaller phones and better battery life, while 3G brought internet browsers and the ability to send photos.

Then things really got started. 4G phones came with high-bandwidth internet access and video streaming, creating the smart phone and birthing a string of entirely new, disruptive multi-billion-dollar companies.

5G dramatically lifts the amount of data that can be moved over the wireless spectrum and the speed at which it travels. >

1. Goldman Sachs, July 2020



"Think about the principles of real estate supply and demand. In our view, there's not many real estate sectors that are forecasting a tripling of demand in the underlying fundamentals like Chinese cloud computing revenues are."

- James Maydew, AMP Capital

These improvements in bandwidth and latency will allow the development of new technologies like augmented and virtual reality, the Internet of Things (IoT), driverless cars and transport systems and networks of sensors that monitor cities and buildings in real time to make society better, these are known as 'smart cities'.

"It's futuristic stuff – but in a 5G world it's real," says Maydew.

"5G is going to allow individuals to become even more immersed in technology. Whether virtual reality or augmented reality, this is a world where we're blurring the lines between reality and virtual worlds."

"In a 5G world, in theory you're not going to have to leave your living room and attend someone's office to discuss a project. You could, say, engage with an interior designer to assess plans for your apartment and see things virtually in real time. It's a Jetsons world we're moving into."

It's not just consumer applications that will be transformed by 5G. Perhaps more important to society is the connectivity of devices.

"The concept of smart cities is where you have devices all over a city measuring pollution, measuring movement, car park spaces, traffic lights – you name it. Every single building and streetlight will have some form of device on it which will be monitoring information," Maydew says.

"Just think about all of the data that's created and where that will all be processed."

Each generation of mobile phone technology exponentially increased the amount of data being created, replicated and stored – and 5G will do the same.

"All that data being generated has got to be moved, it's got to be securely stored, it's got to be processed," Maydew says.

"And all that, in the main is going to happen in a data centre."

Simply put, a data centre is a building that houses computer equipment to store, process and distribute data. They are where the 'cloud' in cloud computing is physically located.

To help familiarise traditional real estate investors, Maydew likens data centres to shopping malls.

"Most of us have a pretty strong mental picture of a shopping mall," he says.

A mall is essentially a building bringing people together with goods and services in one location with specialty shops catering to different interests, but curated by the landlord to maximise its value. Some

tenants want close proximity to other tenants and are willing to pay a premium for that privilege. Being located close to a wealthy, growing population is an important distinction for high quality A-grade malls.

Perhaps surprisingly, many of the same principles apply to data centres. Except instead of people coming and going, it is information.

Co-location data centres for example also have multiple tenants just like a mall. The tenant roster is self-fulfilling and can also attract other high-quality tenants wanting to be in the same data centre. As the landlord curates the tenant roster, they are also able to charge a fee for tenants to share data between each other, bolstering the revenue stream of the asset further.

This physical proximity is as important for data as it is for malls – being close minimises latency, speeding up information exchange and improving the efficiency of doing business and distributing information to the consumer.

Similarly, internet gateway critical data centres are best positioned close to their end users, meaning they often end up in or close to densely populated centres just like a high-quality mall.

One of the key attractions of the Chinese data centre market is its projected growth and lack of supply in the key gateway cities.

Over the next three years, Chinese cloud computing revenues are forecasted to triple from US\$9 billion in 2019 to US\$29 billion in 2022².

The continuation in the cloud boom will drive strong demand for hyperscale data centre space.

Also attractive is the fact the Chinese data centre market is still relatively nascent in its life cycle relative to other markets.

The US, the world leader in cloud computing, recorded US\$60 billion in cloud computing revenue in 2019 and is forecasted to surge to US\$149 billion by 2022³.

Compared to the US, the Chinese market remains fragmented and dominated by the big telecommunications carriers. The three big Chinese telecommunications companies account for 45 per cent of the data centre market⁴.

- 2. Goldman Sachs China Data Centre Report July 2020 & UBS Report July 2020
- 3. UBS Initiation of Coverage: China data centre sector 14 July 2020, pg1
- 4. UBS Initiation of Coverage: China data centre sector 14 July 2020, pg4



This is a similar picture to the early days of the industry around the globe. However, like in the move elsewhere, the market is expected to shift away from incumbent telecom giants to independent, carrierneutral operators over the next few years.

There are two main factors driving this change

Specialist carrier neutral operators tend to simply be better at running data centres and the high customer service expectation as that is their core business, rather than an addon to a wider communications operation.

But perhaps more importantly, the data centre business is quite capital intensive. International experience shows the Chinese telecoms companies themselves are likely to plan a retreat from the sector to free up capital to invest in their core operations, allowing specialists to manage the data warehousing more efficiently.

These trends mean carrier-neutral data centre revenues in China are forecasted to increase by 25 per cent to 30 per cent over 2020-2022, lifting their market share growth over the telecoms companies who are expected to see flat to declining growth rates⁵.

So, where in China are best prospects for data centres?

Maydew and his team focus on the big cities of Beijing, Shanghai and the Greater Bay

"In a 5G world, in theory you're not going to have to leave your living room and attend someone's office to discuss a project. You could, say, engage with an interior designer to assess plans for your apartment and see things virtually in real time. It's a Jetsons world we're moving into."

James Maydew,AMP Capital

 UBS Initiation of Coverage: China data centre sector – 14 July 2020, pg1 Area. This is where the largest populations live which have the highest demand for digital services and importantly where there is literally zero planned new supply of competition data centres, given the strict planning and density restrictions, leading to outsized pricing tension for the landlord to grow its rent roll.

This is unlike the rest of China, where supply of new data centre space is doubling over the next few years.

"More importantly, the key three cities are where you have minimal supply which means you're going to have pricing tension."

Location

"Even though everything's moving virtually and everything's moving quickly, you still want to have proximity, to be as close to the customer as possible," says Maydew.

"If you are a streaming provider or a social media company (or any other industry that requires time critical data) you cannot have buffering or latency – it influences the consumer experience and therefore the legitimacy of your business model."

"For many data dependent business models, you need to be embedded in the urban core ideally at the gateway of the internet to be able to be competitive in your chosen digital business channel."

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The United States in 2021: another game-changing year

The next 12 months will set the parameters for the United States's economic growth over the next decade, and its role in global politics and trade. Much like 2020, this year will be one to watch for the world's biggest economy.

Story by SEAN AYLMER

For the US, 2021 is a seminal year. Not only does the world's economic powerhouse need to recover from the COVID-19 pandemic, it has a very different president in Washington, a deteriorating relationship with some of its allies and China, and polarisation across the political spectrum.

Like all democracies, the ruling party in Washington plays the most influential role. There is a Democratic president and now, a slim majority for the Democrats in the Senate, which means that the Democrats have a better chance of passing their own policies, rather than if Congress were to have split control between the Democrats and the Republicans.

However, any change to policies will be gradual, and new legislation (especially around potential taxation hikes for households and corporates) may be tempered by more moderate or conservative Democrats.

Some of Biden's proposed measures look likely to make it through in the

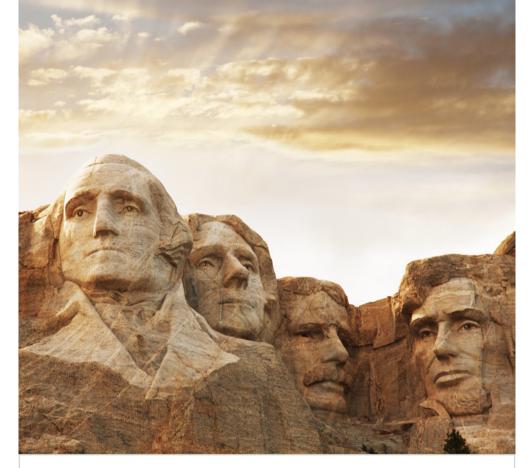
short term – such as at least another US\$1 trillion in fiscal stimulus, probably inclusive of \$2,000 stimulus payments to a large share of US households¹. This is on top of the US\$900 billion (or 4 per cent of GDP) stimulus already passed in December². Following this round of fiscal stimulus, the next stage of stimulus may come in the second half of the year focused towards infrastructure and climate-related spending which will be "paid" for by higher taxes on corporates and high-income individuals.

Biden has also garnered a reputation as an environmental warrior, having outlined a US\$2 trillion plan to fight global warming during the election campaign³. "Some of the energy players could take a hit because of the expectation that a Biden Administration is going to be harsher on high polluting types of companies. While they may benefit a bit from any fiscal stimulus, they could face more regulation. That's something to consider during the second half of 2021," says AMP Capital's senior economist, Diana Mousina.

- 1. https://www.cnbc.com/2021/01/14/biden-stimulus-package-details-checks-unemployment-minimum-wage.html
- 2. https://www.economist.com/united-states/2021/01/02/congress-injects-a-further-900bn-of-stimulus-into-the-american-economy
- . https://www.nytimes.com/2020/07/14/us/politics/biden-climate-plan.html



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"No matter what administration is in power, the world is moving towards greater regulation of the tech industry. We are seeing that in the US and in Australia, with more regulation around Facebook and Google."

- Diana Mousina, AMP Capital

"That could happen around the tech names as well, though it may take longer. No matter what administration is in power, the world is moving towards greater regulation of the tech industry. We are seeing that in the US and in Australia, with more regulation around Facebook and Google."

In the US, the Federal Trade Commission and around 40 states have accused Facebook of buying up rivals to quash competition. In Australia, the government has introduced legislation into federal parliament that would enshrine a code of conduct for the large technology platforms, and force Google and Facebook to pay for

the content created by media companies, and available on their platforms⁴.

Infrastructure is literally nation building, and a great way of boosting an economy while bringing people together. It too will be impacted by the new Administration.

"Biden has a very big infrastructure agenda. I think that could probably get bipartisan support for that maybe the second half of the year."

Under the Trump Administration, the US held a more aggressive trade policy particularly with China. The president followed a

4. For background, please see https://www.theguardian.com/media/2020/dec/09/australia-is-making-google-and-facebook-pay-for-news-what-difference-will-the-code-make and New York Times, December 9, 2020

buy-America policy and accused China of unfair trading practices and intellectual property theft. For many, the perception in China was that America was trying to curb its rise as a global economic power.

"I think the overall stance around being tough on China is still likely to continue," Mousina says. "When Biden was vice president to Barack Obama, that was the type of position he held," Mousina says.

"He is unlikely to be rolling back tariffs. They still want to reduce the trade deficit that the US runs with China. They will continue to put pressure on Chinese firms that are operating in the US. But the Biden Administration may not actually ramp up tariffs and is more likely to work with allies to negotiate with China around its trade policies and regulation.

"That may not be favourable for Australia. Obviously, Australia is in a tough position with China. If the US asked us to back them on some type of anti-China negotiations, that wouldn't be positive for Australia," she adds.

"But, at least, there's a benefit for equity markets under the new Administration. Investors don't like tariff wars because it increases costs for businesses and tends to be seen as negative for economic growth. But if its just rhetoric, equity markets won't necessarily be spooked by that. It would be much more negative if there were direct tariff wars."

Biden has said he will take a more multi-lateral approach to global politics, re-committing to the World Health Organization, the Paris Climate Agreement and potentially the Trans-Pacific Partnership after the Trump administration cut ties with these organisations, citing few benefits versus costs to the US from its membership.

So could 2021 be the year in which the economic powerhouse mantle is passed from the US to China?

"Well in purchasing power of parity (PPP) terms, China already is the biggest economy," Mousina says.

A little explanation is needed here: The US is still the world's largest economy, churning out around \$US21 trillion worth of goods and services each year⁵, measured in US dollar terms. In nominal gross domestic product terms, the US is 50 per cent bigger than China, and four times bigger than the world's third largest economy, Japan. It's about 15 times the size of Australia.

But it is no longer the biggest economy in PPP terms. That's a measure of 'bang for buck' – it equalises the purchasing power of different currencies by eliminating the differences in price levels between countries⁶.

"I think China will keep taking a dominant position. Part of the reason why the US and its allies are concerned about China is because they are building their own global business leaders in the tech space, and they are doing that guickly." Mousina says.

"China has a huge number of names that are very big players in the global trade market. And the middle-income population has so much further room to grow. The Chinese economy is going to become bigger and richer," she says.

"More broadly, I think Asia will be the driving force for global growth over the next 10 to 20 years, and especially China. Its rise will positively impact other Asian countries – economies like Korea, Indonesia and Japan. That's good for Australia as long as we don't continue our trade disruption with China."

Mousina is confident that a vaccine will be rolled out in 2021. "It's already happening in the United Kingdom and I think at least 50 per cent of the population will take it up.

That's the type of threshold you need to see herd immunity starting to develop," she says.

"Also, governments will start to put in place regulations where you won't be able to do things unless you have the vaccine. It will be the same for what we do now with basic viruses."

Mousina says the AMP Capital economics team is forecasting that the US economy will grow by 4.8 per cent next year, after contracting by 3.2 per cent in 2020. But it will take until 2022 for the economy to be tracking at the same growth path it was before the coronavirus pandemic.

"The way the US has been growing over the past six months has been extremely strong, even though they've had a huge number of cases coming in this third wave, over the past two to three months," she explains.

A risk for the US in 2021, is what happens in Congress, and whether the Biden Administration can get its legislative agenda through both the Senate and the House of Representatives. Again, though the Democrats have a majority in the Senate, it's a slim lead.

"But for the time being, the biggest risk for any country is what happens with the vaccine. When does it get rolled out? That is when you will really start to see business investment profiles changing and you will see more spending."

There's one more X factor. Donald Trump and his base.

"He has a huge amount of support. He didn't get the majority of the population voting for him, but he got a large number of people supporting him. There's still going to be a lot of people unhappy with Joe Biden being the president.

"I think that Trump, and his support base, will still play a role in politics. There will still be a very pro-America, pro-manufacturing jobs, anti-China political base. And you could easily see Trump starting some new political party or his offsiders doing that. I think he still wants some voice in the political discussion."

So will 2021, like this year, be dominated by COVID-19?

"Yes," Mousina says. "The stimulus package that eventually passes will be the main driver of growth outcomes in the first six months of next year in the US. And then it depends on the vaccine roll-out."

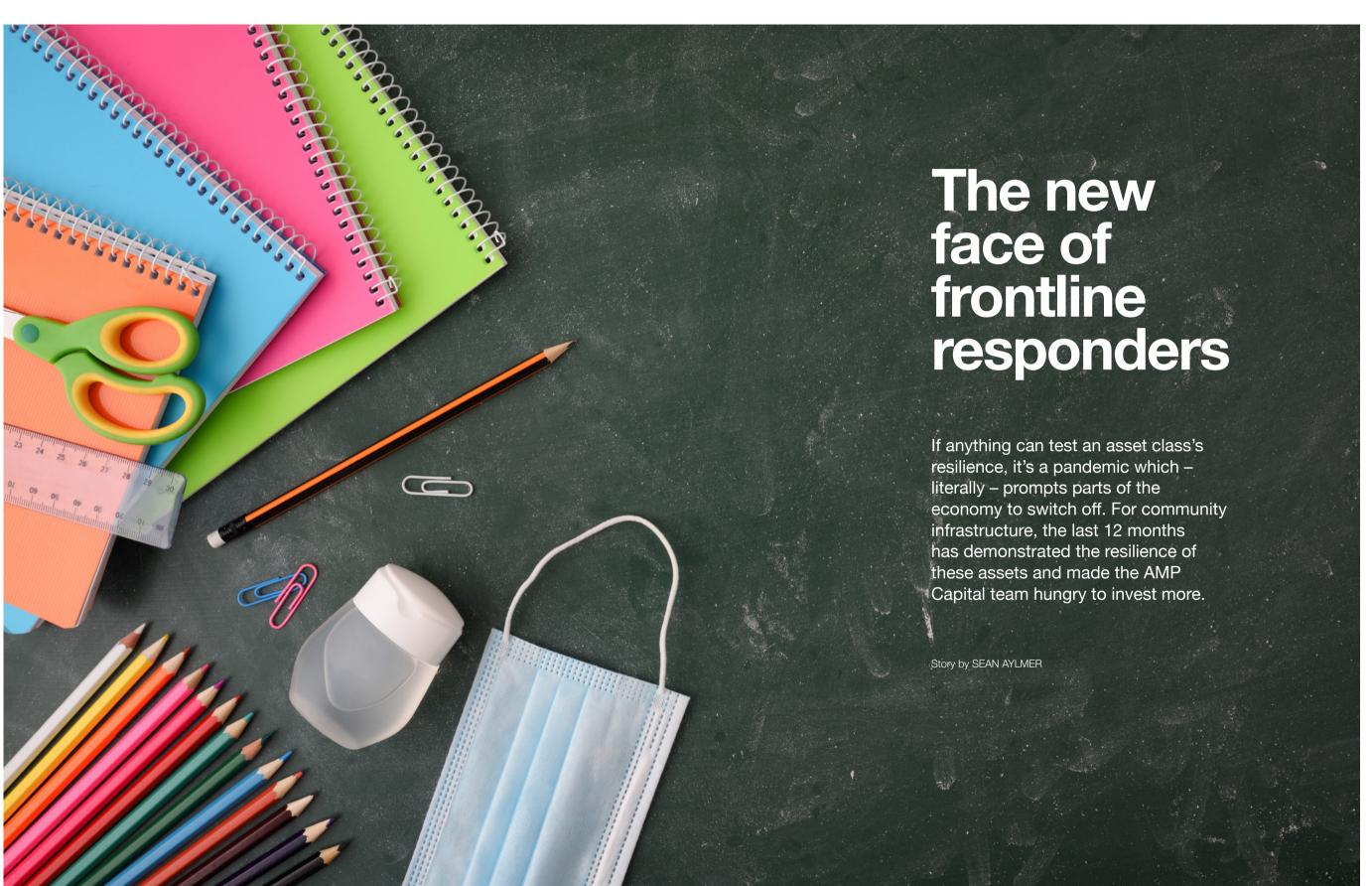


"At least, there's a benefit for equity markets under the new Administration. Investors don't like tariff wars because it increases costs for businesses and tends to be seen as negative for economic growth. But if it's just rhetoric, equity markets won't necessarily be spooked by that. It would be much more negative if there were direct tariff wars."

Diana Mousina, AMP Capital

6. https://www.oecd.org/sdd/prices-ppp/purchasingpowerparities-frequentlyaskedquestionsfags.htm

^{5.} https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=US



Community infrastructure is largely taken for granted in society. Schools, hospitals, roads, gaols, parks, water assets – they've always been there.

What has changed, though many might not realise it, is how public infrastructure is funded.

Apart from toll roads – where the ubiquitous beep of the toll tag is a constant reminder that we pay for the roads we use – the general public has little understanding of how much private money is invested in what are normally considered public assets.

If done well, investing in public infrastructure has a positive community impact and provides institutional-grade returns. >

Investing is often done via long-term government-backed public private partnerships (PPPs), which have consumer price index linked payments and are normally lowly correlated to traditional asset classes.

PPPs themselves offer many attractive characteristics. They are long-term, government-backed contracts, often involving the design, building, financing and maintenance of an asset. They are less exposed to patronage risk, competition or changes in economic activity. And as long as the facility is available for the public, revenue is normally paid by the government.

All of this is predicated on a normal economic cycle. But what happens in a year like 2020. when the cycle collapses and patronage risk soars? What happens when you invest in schools and the students don't turn up?

"Well, it's fair to say there was a lot of uncertainty in the early days of the pandemic," says Australian-based Andrew Jones, AMP Capital's associate director, infrastructure equity. "Principals and teachers were concerned, as were parents, as to what immediate actions should be taken."

"As the infrastructure owners of several schools, we were receiving regular updates from our onsite facilities managers and there was a lot of emotion and uncertainty as to how the pandemic would impact our school communities and whether to send their kids to school or not," he adds.

Jones is part of the infrastructure team that oversees several funds, including one that has interests in 36 schools across South Australia, Victoria, southeast Queensland and New South Wales. It serves more than 30,000 children.

"The situation began to settle down once the various state departments of education provided clearer direction that schools were not going to be required to immediately shutdown, and instead we saw a shift to a hybrid learning model. This meant students were encouraged to learn from home, while the children of essential service workers and vulnerable parents were able to come to school."

As an owner of schools, it meant AMP Capital had to view the disruption not just from a health and education perspective, but also from a financial one.

"We certainly had to think about worstcase scenarios, such as schools closing



"From an investment viewpoint, it was interesting to see how schools played out in the community. People naturally think of hospitals, water treatment plants and utilities as essential services. But during the pandemic, it really demonstrated that schools were an essential service. confirming our philosophy."

- Kathlyn Crafford, AMP Capital

down," Jones says. "However, we knew that would be an extreme outcome as these projects are complex and they are not like a tap that you can simply turn off one day, and on again the next. We worked closely with our government counterparts to understand their thinking and to pre-empt any extreme measures that may have arisen."

In the end, schools remained open.

"It became clear that the government didn't want to shut them down. We had to implement changes to deal with the situation such as maintaining hygiene, physical distancing and additional cleaning. There was a cost up front but we decided to wait for later down the track to deal with that. Initially,

it really was a call to arms and our teams on the ground stepped up and did a great job."

AMP Capital has been investing in schools since 2010.

"We are the second largest owner of public schools in Australia next to the state governments," says Kathlyn Crafford, senior associate, infrastructure at AMP Capital.

The pandemic was a stress test of AMP Capital's view that schools should be considered an essential service.

"Pre-COVID-19, I don't think educators would have been considered frontline workers. They definitely are now because they were at the coalface of the outbreak," Crafford says.

"From an investment viewpoint, it was interesting to see how schools played out in the community. People naturally think of hospitals, water treatment plants and utilities as essential services. But during the pandemic, it really demonstrated that schools were an essential service, confirming our philosophy."

AMP Capital's community infrastructure strategy focuses on essential services. Outside schools it invests in wind farms, medical and vocational education facilities, prisons, a desalination plant, water assets and a sporting stadium.

One of the most attractive attributes of this strategy is it aims to provide more than a financial return.

For example, some of the schools which receive funding from AMP Capital are located in disadvantaged areas. The private funding hasn't only improved facilities, it has also propped up educational outcomes.

There is an example of this in one Australian school. In 2010, completion rates at the school were 57 per cent. In 2017, they were 100 per cent, with four students achieving the top ATAR in the state¹.

It's part of the reason why schooling is an essential service.

Jones says it wasn't just educating children that was considered essential during the pandemic. Freeing up parents, who were essential workers, was also critical.

"Around 80 per cent of healthcare workers are female². Consider the ripple effect of what it means to close schools, and how many resources you would potentially drain from the healthcare system as a result of parents having to stay home and look after their kids," he says.

One of the key lessons to emerge from the COVID-19 pandemic, Crafford says, is technology investment within the school system.

"As an investor in a PPP, we enter into a 30-year contract. During that period, we have to replace infrastructure like-for-like. But technology doesn't really fit well into that structure as it changes so quickly," Crafford says.

Another lesson, Jones says, is that AMP Capital believes schools are worth investing in.

https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4125.0~Sep%202018~Main%20Features~Economic%20 Securitv~4

3. Source: AMP Capital

1. Source: AMP Capital



"The pandemic has reinforced the defensive characteristics of our schools portfolio. We've got a strong appetite to invest and build more schools particularly as we continue to observe overpopulation of schools across all states. We are keen to work with governments to address ongoing capacity needs."

- Andrew Jones, AMP Capital

"Keeping up with changing technology in thousands of schools is a challenge for government, to put it in perspective. some of our schools were built before WIFI was readily available and teachers used whiteboards. Now teachers use interactive whiteboards and smart TVs. I'm hopeful that a positive outcome from COVID-19 in the education sector, will be further investment in technology in schools to support and enhance learning outcomes."

"Our strategy provides both a community service and a financial benefit. Our suite of assets are classified as essential infrastructure, and if you look at performance during COVID-19, it's done well and been extremely resilient³," he says.

"The pandemic has fuelled our appetite to invest more and build more schools particularly given the overpopulation of schools we seen across all states."

Jones says he expects the community infrastructure strategy to continue growing, in part because the pandemic has demonstrated the defensive characteristics of investing in essential community assets.

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"It's proven to be a very resilient approach to investing."



Why a new future for dealing desks has arrived



DYLAN KLUTH Head of dealing

COVID-19 has required dealing desks to respond to a monumental shift in established ways of working. AMP Capital's response has been guided by both the prioritisation of team safety and the aim of minimising the increasing cost of trading. It's already clear that the lessons from this period are here to stay, as we learnt from Head of dealing, Dylan Kluth.

Overall, how has the AMP Capital Dealing Desk managed the transition from office to working from home?

If you had told me this time last year that we would be working in isolation during a third lockdown in London, I'd have found that incredibly hard to believe. I think we're all personally surprised at how well we have handled what has in some part been a global social experiment, and pleased at how quickly and effectively we have been able to execute our continuity plans.

After over a year now of working through the challenges of a pandemic, in a team that is historically accustom to physical proximity for the whole working day, for sure we will take some fundamental lessons and strengths with us when the crisis eventually ends.

I credit a lot of our initial success to early, proactive moves. Historically, dealing desks have felt a reliance on sitting together for regular and clear instruction and action. Our traditional office-based set-up reflects this. However, when headlines in mid-February last year started to suggest that COVID-19 would impact the world as it had China, our dealing desk reacted quickly by proving our ability to work remotely. We're thankful that we did, because when we went into our first lockdown about a month later, our team was ready.

Almost one year in to working between and in lockdowns, what are some of your key learnings?

First, reliable and effective communication has remained non-negotiable. Regular and clear delegation of our order book is critical to ensure best execution. Such processes were already well established within our team, and thankfully technology has made maintaining them easier than ever before. Plus, as a global fund manager, we are accustomed to working with teammates and stakeholders across the globe.

We are constantly looking for ways to improve, but so far, we have not had to develop any new tools to support remote working. We miss the face-to-face elements of our jobs, but we can still communicate effectively. Plus, knowing that we now have the proven ability to work from home gives us an extra layer of comfort and flexibility.

Second, it has become clear that our constant analysis of the way we trade has allowed us to remain nimble and effective

1. Dissecting the Viral Selloff, Goldman Sachs, April 2020

"It has become clear that our constant analysis of the way we trade has allowed us to remain nimble and effective when volatility increases. Volatility comes and goes, but this latest bout has sent a reminder – building a robust set-up matters when it's business as usual so that our dealing desk can remain calm, cool and collected when volatility increases."

when volatility increases. Volatility comes and goes, but this latest bout has sent a reminder – building a robust set-up matters when it's business as usual so that our dealing desk can remain calm, cool and collected when volatility increases.

Why have trading costs increased and to what extent? What have we done to keep costs down?

Put simply, the cost of trading increases with uncertainty, and it's no secret that uncertainty has been running high with COVID-19 concerns. Volumes were elevated during peak volatility, but the increased volatility, especially over multi-day orders, increased costs.

To put it in to numbers, daily bid/ask spreads in the STOXX 600 went from 4 bps in 2019 to 15 bps at the peak of the selloff. In Europe, Italy, Germany and Spain saw the most significant increases. Turnover increased overall, but available liquidity (measured by quantities available at the prevailing bid and offer) thinned by almost half in the STOXX 600 and Russell 1000¹. In our view, markets faced high execution costs due to wider spreads, higher volatility and a lack of depth.

For us, these circumstances have meant several things. They've meant leveraging our networks – we maintain a large network of global brokers across all asset classes, and have been working with them to ensure we have access to liquidity in all its forms. Further, our global multi-asset dealing desk uses a broad range of tools to measure and track transaction costs. We scrutinise this constantly – in volatile and normal times – to ensure the cost of trading is kept to a minimum.

Lastly, AMP Capital's team of dealers work closely with our Trader Technology Analyst – a new and important component of our dealing desk that help us analyse, improve and add efficiencies to our trading. Markets change rapidly, so it's important that we use these moments to learn and innovate.

Where to from here, and are you looking forward to being back in the office when the pandemic settles?

I'm certainly looking forward to being back in the office and working alongside my colleagues... but I'm optimistic that dealing desks will see that working from home is no longer just a back-up for business continuity.

If we can manage to work in isolation with the tough backdrop of a pandemic on our doorstep, I have no doubt we can make it work and achieve strong results when the health crisis abates.

Further, amidst a human health emergency, our business continuity plan proved to be just as reliable and effective as our normal way of working. This drives home the fact that it's the fundamentals of a team – not the space they work in – that delivers results. It also speaks to the importance of continuity planning for extreme circumstances, however unlikely they may seem.

A new standard of working from home might also allow for greater workforce diversity – something which we feel could introduce new perspective and talent to our team.

Considering the weight of history that formed a classic dealing desk structure, this is a huge leap in a very short space of time, and could easily set a new precedent for how we operate into the 2020s. \square

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About AMP Capital

AMP Capital is a global investment manager offering private market and public market solutions to clients, with a strong focus on ESG.

Our home strength in Australia and New Zealand has enabled us to grow internationally, and today we have operations in Dubai, China, Hong Kong, India, Ireland, Japan, Singapore, Luxembourg, the United Kingdom and the US. With over 250 investment professionals working in 19 locations around the world, we're able to deliver the capabilities and investment solutions that help our clients achieve their financial goals. We also collaborate with a network of global investment partners, leveraging our shared capabilities to provide greater access to new investment opportunities.

We are entrusted to manage A\$189.9 billion¹ in assets under management on behalf of our clients, across a range of single sector and diversified funds. We work with more than 300 international clients and manage over A\$20 billion in assets on their behalf1.

Direct real estate

With a heritage spanning over 50 years, we actively manage real estate across all stages of the cycle. We realise true value for clients through the investment management, property management and development of a portfolio of some of the most iconic shopping centres, industrial estates and office buildings, from Australia's first skyscraper to the transformational Quay Quarter Sydney development.

Direct infrastructure

Backed by a truly global infrastructure platform, we're able to capture what we consider to be the best investment opportunities from around the world. It's earned us a name on a global stage, and a place as one of the top 10 infrastructure managers worldwide².

With 30 years' experience, we bring a breadth of insight that spans energy, power, transport. utilities, airports, seaports, communications infrastructure, social infrastructure, aged care and more. The combined expertise of close to 100 infrastructure investment specialists also allows us to cover all aspects of capital structure giving our clients more investment options for their future.

Public markets

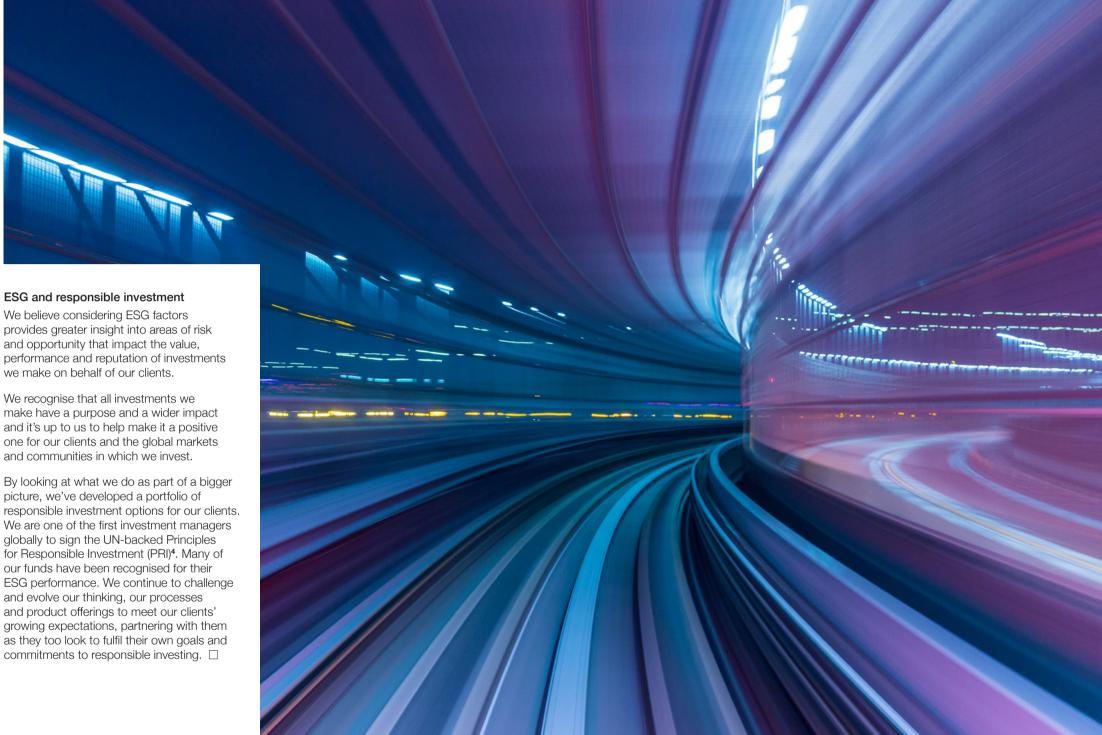
Our well-established public markets business, including fixed income, listed equities and multi-asset solutions, requires shifting from traditional actively managed products to a specialist active offering of targeted solutions which meet specific client needs. Our public markets team remains focused on delivering investments that match our client's needs as we manage A\$126.7 billion³ across our global fixed income, multi-asset solutions, Australian equities, global listed real estate, global listed infrastructure and global equities solutions

ESG and responsible investment

provides greater insight into areas of risk and opportunity that impact the value, we make on behalf of our clients.

make have a purpose and a wider impact and it's up to us to help make it a positive one for our clients and the global markets

By looking at what we do as part of a bigger picture, we've developed a portfolio of responsible investment options for our clients. We are one of the first investment managers globally to sign the UN-backed Principles for Responsible Investment (PRI)4. Many of our funds have been recognised for their ESG performance. We continue to challenge and evolve our thinking, our processes and product offerings to meet our clients' growing expectations, partnering with them as they too look to fulfil their own goals and



- 1. Data as at 30 Jun 2020, Note: AMP Capital AUM includes a 15% share of CLAMP AUM (A\$8.7b),
- 2. Infrastructure Investor ranking 2020
- 3. As of 30 June 2020.
- 4. www.unpri.org





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